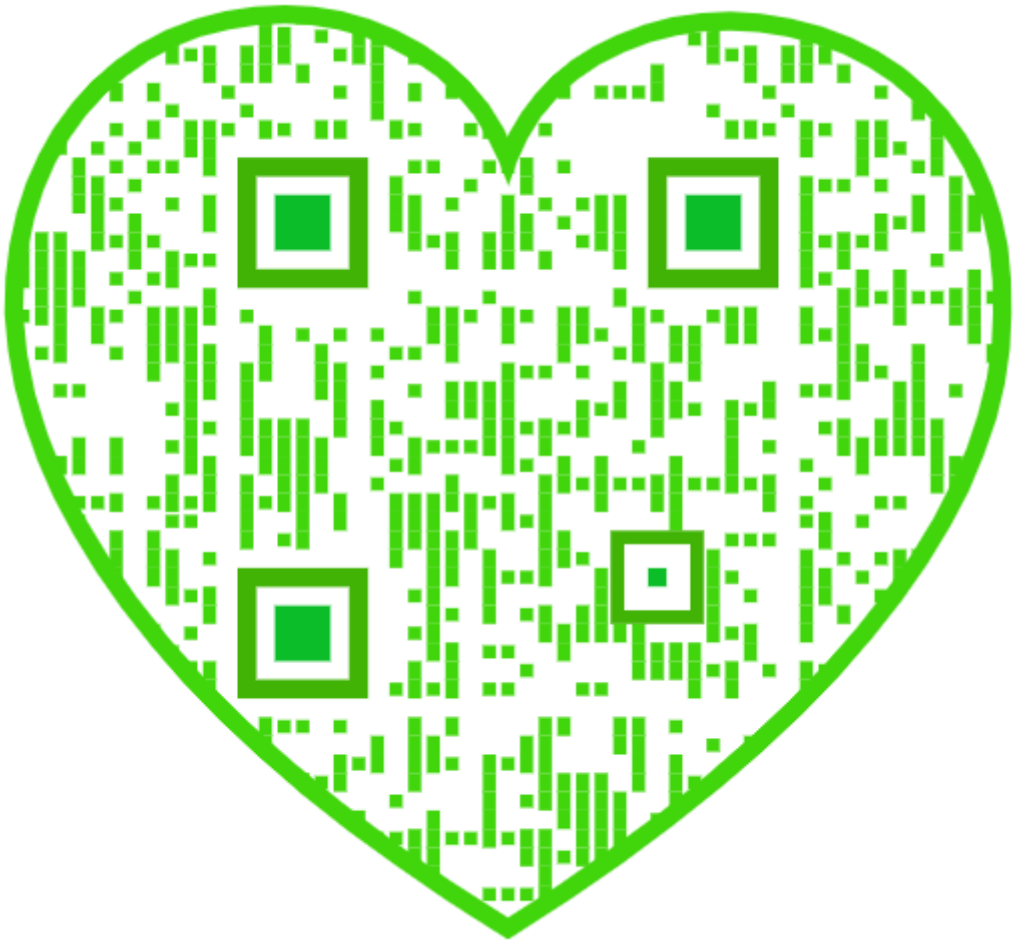

PRINCIPLES OF POLITICAL ECONOMY

BY

THOMAS NIXON CARVER

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TO

ALL THOSE

WHO CARE TO SEE THEIR COUNTRY

GROW STRONG AND GREAT

416530

INTRODUCTION

At no period in the history of democracy have men been compelled to think so seriously about the question of the strength of democratic nations as at the present time. At no time was it ever so plain that the question of national strength is largely an economic one. It is the purpose of this book to examine the economic foundations of our national strength and to point out some of the more direct methods of improvement, to the end that our democratic nation, and all democratic nations, may grow prosperous and great in all the elements of national greatness.

This result can never be achieved unless the people themselves understand the economic principles upon which national prosperity and greatness depend. Subject peoples may ignore these principles, relying upon their rulers to supply the necessary economic knowledge and expertness. Democratic peoples have no one to depend upon but themselves; therefore they must know for themselves the leading principles of the science of political economy.

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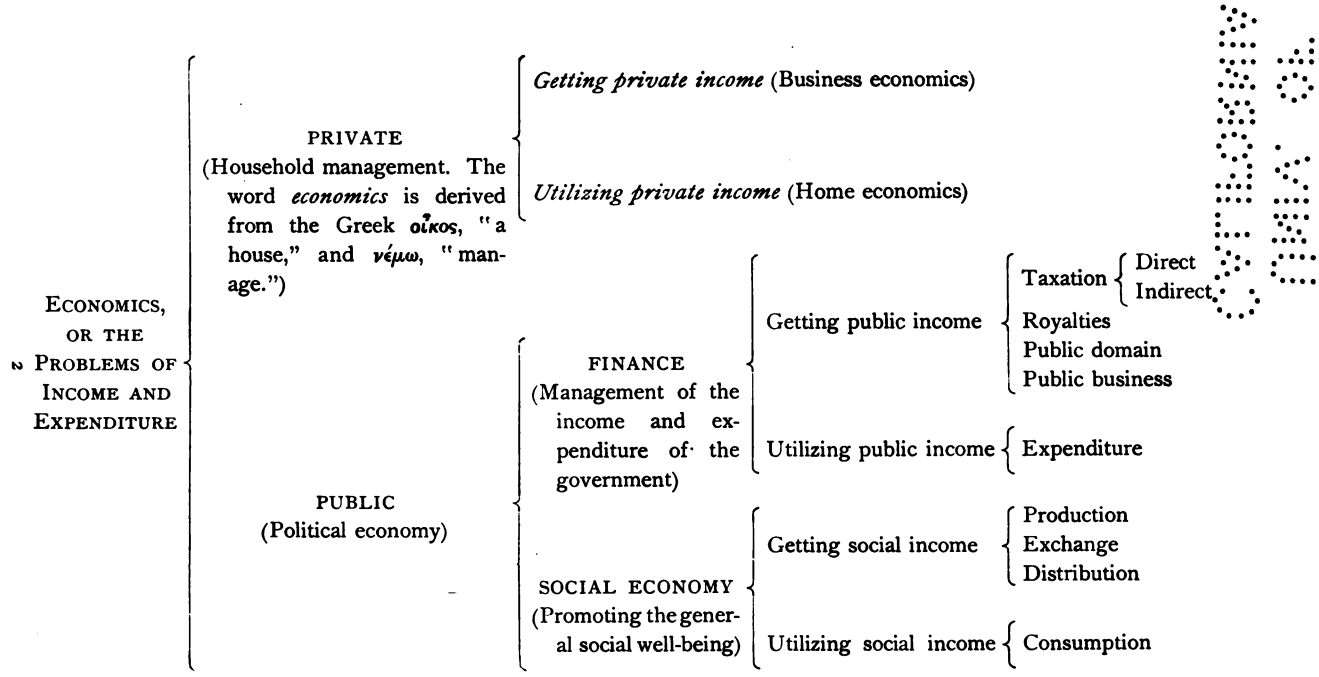
PART ONE

THE UNDERLYING CONDITIONS OF NATIONAL PROSPERITY


ECONOMICS, OR THE PROBLEMS OF INCOME AND EXPENDITURE
PRIVATE
(Household management. The word *economics* is derived from the Greek οἶκος, "a house," and νέμω, "manage.")
Getting private income (Business economics)
Utilizing private income (Home economics)
PUBLIC
(Political economy)
FINANCE
(Management of the income and expenditure of the government)
Getting public income
Taxation
Direct
Indirect
Royalties
Public domain
Public business
Utilizing public income
Expenditure
SOCIAL ECONOMY
(Promoting the general social well-being)
Getting social income
Production
Exchange
Distribution
Utilizing social income
Consumption

CHAPTER I

ECONOMY

What it means to economize. To economize is to choose among several different things which one would like to have, giving up the things for which one cares less in order to have the thing for which one cares more. Necessity forces this kind of choosing not only upon individuals but also upon communities and nations. *Economics* is the name given to a body of principles which govern the practice of economy in its broadest sense.

This choosing of what one will have takes on many and various forms. It may be a question as between play and work or between different kinds of work, different kinds of play, or different objects which one might purchase with one's limited money or purchasing power. The problem is always how to use one's time, one's working power, or one's money in such a way as to accomplish the most in the promotion of one's interest or the fulfillment of one's hopes and purposes. This is a problem, however, not for the individual alone but for the community, the nation, and the world at large. The community and the nation, like the individual, have common interests which can be promoted only by common effort. How to use the energy of the community and of the nation economically, that is, in such a way as to accomplish the largest and best possible results, is a problem of the greatest possible importance. In a democracy especially it is fully as important that the citizen should understand how the community and the nation may economize their energies and achieve the utmost in the way of civilization and well-being

as it is that he should understand how he may economize his own individual energy and accomplish the utmost in the promotion of his own interest and the fulfillment of his hopes. Moreover, the former is a vastly greater and more difficult problem than the latter. It will require a broad, careful, and systematic study of economic principles instead of a narrow, piecemeal, haphazard study of individual problems in economy.

When you are asked to do a certain thing and you reply that you have not time, you are sometimes merely trying to be polite. You may really mean that there is something else which you would rather be doing with your time, or which you feel that it is more important that you should do, than the thing you are asked to do. In other words, you have not time and energy enough to do everything you would like to do or that others would like to have you do. You must leave many things undone, and you must, therefore, choose rather carefully the few things that you think most important or that would cause you the most inconvenience or pain if you left them undone. In order that you may do these few and important things, you must refuse to do anything else that would interfere. That is what it means to economize time and energy. It is choosing to do the more important things, leaving the less important things undone. Economizing in the use of money is only one special form of economizing time and energy, since money represents the products of time and energy.

Why we have to economize. In saying that you do not have time to do a certain thing, you are stating one of the most fundamental facts of life; namely, the great and ever-present fact of scarcity. It is this fact which compels us to economize, which compels us to make our limited fund of energy and our limited time go as far as they will. To waste time or energy is to fail to supply ourselves with some of the things we want. To waste things that have already been produced is no worse than to waste the time and energy that might have produced

more of the same things. Wasting time and energy is not necessarily remaining idle, though it may mean that. It may also mean the doing of less important things when there are more important things to be done. If one had unlimited time and energy, or if one had the time and energy necessary to do everything one would like to do, so that the doing of one thing never prevented the doing of anything else that was worth doing, economy would be unnecessary. If that were true, human life and human history would be very different from anything we now know, and this world would be so unlike the present world that none of us would recognize it.

But time and energy are in a sense convertible into goods and commodities; that is, into the products of industry which are the means of satisfying our desires. Therefore, when we say that we cannot afford a certain article, we mean very much the same thing, fundamentally, as when we say that we have not time to do a certain thing. In both cases we are merely stating the great fact that it is necessary to economize, to choose what we will do with our limited energy or our limited money to the exclusion of other things. The fact that time and energy are insufficient to enable us to do everything that we might like to do makes it certain that we cannot produce everything that we should like to have, and that, if we could, we should not have time to do something else. If we were to work all the time, we should have no time to play; and everybody likes to play — that is, everybody worth mentioning. We must therefore choose whether to deprive ourselves of the opportunity to play in order to get certain goods that we want, or to reduce somewhat the number of goods we consume in order to have more time to play. Again, if one works too long on one kind of goods, one has less time and energy left to produce others. At every step in the life of every normal human being, therefore, he is confronted with some problem in economy. As already stated, the necessity for economy grows out of the scarcity of something or other, — either time

and energy, on the one hand, or some form of material goods, on the other. Find an individual who experiences no lack or scarcity of anything, and I will show you an individual who has no need for economy; but you will look a long time before you find him.

Getting and spending. In the practical everyday life of the average person problems of economy are mainly focused on the problems of getting and spending, — of income and expenditure, or of business and the household. If one's income is less than one would like to have it, it means that one's desires run beyond one's income. Such an individual therefore tries, first, to increase his income and, second, to get as much good out of it as he can; that is, to spend it as wisely as he knows how. This is true not only of every individual and every family but also of every organization, even the State itself, and it is even true of all the people as distinct from their government. The greater part of the time and energy of the people of this world is spent on these matters, but it is spent in a great variety of ways.

A glance at the diagram at the beginning of this chapter will give one a general idea of all the forms in which the problem of income and expenditure presents itself. The reader will get, at the same time, an idea of the principal branches of the great science of economics, for economics is, in one aspect, simply the study of the problem of income and expenditure. This problem is in turn the problem of economizing time and energy, on the one hand, and goods, on the other. Another way of saying it would be that it is the effort to make things that are scarce go as far and accomplish as much as possible.

Economics, — household management. Originally the word *economics* meant "the principles of household management." It comes from the two Greek words, *οἶκος*, "a house," and *νέμω*, "manage." It was simply a study of the principles of household management. In Xenophon's treatise on this subject he discusses the management of a simple rural household, in

which the business that furnishes the income is united with the home in which the income is spent or utilized. In fact, it was the kind of rural household that some men now living can still remember, where nearly everything consumed in the household was produced on the farm, so that there was comparatively little buying and selling. In such a household the problems of income and expenditure, of business and home life, are not very widely separated. The income was made up of the products of the farm and not of the money for which they were sold, because they were not sold at all. The expenditure, if such it may be called, was merely the utilization of those products, and not the spending of money, because there was no money to spend. In the broadest sense, as we shall see a little later, that is what constitutes the income and expenditure of the people as a whole. Individuals may buy and sell among themselves, but the people as a whole consume their own products. In recent times, especially in our cities, the business that is the source of income is so widely separated from the home, where the income is utilized, as to make them seem like different problems altogether. In fact, we now have two distinct subjects, or branches, of private economics, known respectively as business economics and home economics. That these two branches, which the Greeks regarded as parts of the same subject, are now so sharply separated is a sign that we have gone a long way from the condition in which business and life were united, toward a condition in which they are to be completely divorced. This should make us ponder seriously, because, while it is doubtless in many ways a good tendency, it is in other ways a bad one.

Public income and expenditure. But the problem of income and expenditure is a serious question for the public as a whole as well as for the private citizen. The State gets its income from different sources and by different methods from those pursued by the individual, but income is as necessary to a State as to a citizen. In order that its limited income may

go as far as possible and accomplish the greatest possible good, the question of public expenditure must be studied with the greatest care. It is scarcity in this case, as well as in the case of the individual, which makes economy necessary. If we could imagine a State with an unlimited income, — which we cannot, — so that when it spent money for one purpose it was not necessary to refrain from spending money for any other purpose, there would, of course, be no occasion for public economy. Xenophon, who wrote our oldest treatise under the title of "Economics," also wrote a treatise on "The Revenues of Athens." In the former work he was well within the field of private economics, but in the latter he had got well over into the field of public economics. This branch of public economics, or political economy (that is, the branch which deals with the revenues and expenditures of the State, or with what has been called the housekeeping of the State), is commonly called public finance. It will readily be seen that there is a close resemblance between public finance, which deals with the income and expenditure of the government, and private economics, which deals with the income and expenditure of the private family.

Social well-being. But there is another branch of public economics which is broader than public finance; that is, the branch which deals with the general problem of social wealth or well-being. This branch deals neither with the income and expenditure of the individual family as such nor with those of the government as such. It deals rather with the income and expenditure of the people as a whole. This is called social economy or social economics. It is the most important study for the real statesman or nation builder. Since in a democracy everyone is a nation builder, in a small way at least, in that he helps to determine the policy of the nation, it is of the greatest possible importance that everyone should study the problems of social economy as well as those of public finance and private economics.

The management of the king's household. A good illustration of the importance of this subject is found in the studies of a group of scholars who, some hundreds of years ago, were studying the problem of providing for the king's household. These were the finance ministers of certain kings of European countries. They are now sometimes called the cameralists. Having charge of the affairs of the king's household, they were, in a sense, studying private economics; but since the king was a public functionary, deriving much of his revenue from taxation and other public sources and performing many of the acts of government, these finance ministers were, in another sense, studying public economics. At any rate, they were severely put to it to find revenue enough to pay the expenses of the royal household or to keep the expenses within the royal revenues; that is, to balance income and expenditure. These were problems in economy. How to get as large an income as possible with the limited energy at their disposal, and how to expend that income so as to add the maximum to the resources of the king's household, were very serious problems.

The social income. The more they studied this problem, the more clearly they saw that in order to increase the royal income the people over whom the king ruled must be made prosperous; that is, the social income must also be increased. "Poor people, poor king" came to be an axiom in public finance. Therefore attention was given to the problem of increasing the social income or of promoting the prosperity of all the people. Later writers have given their chief attention to this part of the problem. In the outline at the beginning of this chapter this is called social economy.

Exchange. In one sense, as already pointed out, the social income is the annual production of the nation. So there was a tendency at first to give chief attention to the subject of production, but it was soon discovered that in social economy exchange was an important factor. In studying the

internal economy of an individual household, whether a private or a royal household, exchange among the members could be left out of account; but in studying the internal economy of a whole nation it could not be left out of account, for the obvious reason that the citizens of the nation did a great deal of exchanging among themselves. This is particularly true of the modern nations. Buying and selling has come to be so large a part of the economic life of the people that for a long time it seemed to many students to be the most important aspect of economic life. So there came a time when the chief emphasis was laid upon exchange rather than upon production. Indeed, it was assumed for a time that production would almost take care of itself; that is, each individual would look after his own part in it if only the government would provide him safe and open markets and a convenient medium of exchange in the form of money and sound banking facilities.

Distribution of social income. Still later, another problem was discovered to be of equal or greater importance. Like the problem of exchange, this was one which could also be ignored in the study of private economics. It is the problem of the division of the products of industry among the workers. When a large number of people take part in the production of a given commodity, say shoes, the question as to how much of the value of the shoes shall go to each person or group of persons is of the utmost importance in social economy. The farmer, the miller, and the baker, as well as the carrier, have all had something to do with the production of a loaf of bread. It is very important to know how much of the value of the bread goes to each of those who have had a part in its production. This is called the problem of distribution; as you will see, it is somewhat different from the problem of exchange, though very closely related to it. Such questions as the wages of different classes of laborers, the rent of land, the interest on capital, the profits of enterprise, are parts of the general problem

of distribution. During the last fifty years, it is fair to say, more emphasis has been laid upon the subject of distribution than upon either production or exchange.

The utilization of the social income. While the consumption of the people has been recognized as the utilization of the social income, and therefore as a thing important in itself, yet students have almost ignored it as a branch of the science of economics. One reason has doubtless been the feeling that every individual would better be left to consume his income as he liked, whether he did it wisely or foolishly, beneficially or harmfully. Attempts to control or direct his consumption have been called sumptuary laws. By pronouncing these words with a wry face such attempts may be discredited, that is, for a time. Meanwhile, however, every progressive community has gone right on passing sumptuary laws, in one form or another, sometimes to the great advantage of the people, sometimes to their disadvantage. Students are therefore becoming convinced that the consumption of wealth merits a great deal of study, that it is going to be controlled and directed by the State whether we like it or not, and that whether it is controlled and directed wisely or unwisely will depend upon how carefully and intelligently it is studied. In fact, a few are already beginning to discover that consumption is more important than production, exchange, or distribution,— possibly more important than all three combined.

CHAPTER II

WEALTH AND WELL-BEING

What are economic goods? Before we can go very far in our study of income and expenditure, or of production and consumption, we must get a fairly clear idea as to the sort of things that make up income, or the sort of things that men try to produce. When it was stated in the last chapter that the necessity for economy arose out of the fact of scarcity, it might have been guessed at once that the things that make up one's income in a strictly economic sense are the things that are scarce. More accurately, perhaps, we should say that the only things we try to produce are the things of which we do not have enough. It may sound a little queer at first for one to say that his income consists of things that are scarce, or things of which he does not have enough. It will therefore be necessary to spend some time in making this point absolutely clear; otherwise we shall never be free from error and confusion. As a matter of fact, the very first step toward a true understanding of the nature of wealth is a clear perception that wealth in the economic sense consists of things that are scarce and so need to be economized. When it is said that the necessity for economy grows out of scarcity, and that we only try to produce the things that are scarce, we do not imply that everything is scarce. Some very useful things are very abundant, — so abundant that everyone can have all he wants; and when he gets all he wants, no one else is deprived of anything that he wants. Such things do not have to be economized; hence they are not economic goods. In fact, so long as they are sufficiently abundant, they give us no concern; but when they become scarce, we spend our time in

trying to get more. Only those things are economic goods which have to be economized, that is, which are scarce, or of which we do not have as much as we should like to have.

Two meanings of *wealth*. Now the word *wealth* has two meanings. In the first place, it is the collective name for all economic goods, or for all goods that have to be economized, — that is, for goods that are scarce. In the second place, it is the name of a condition or state of being. It comes from the older word *weal*, which means very much the same as *well-being*. These two meanings, while apparently different, are yet very closely related. The condition of well-being which we call wealth depends upon the possession of an adequate supply of those things which we call wealth, that is, the things which are ordinarily scarce and which have to be economized. He who lacks an adequate supply is poor; he who possesses an adequate supply is rich or in a state of wealth. In short, those economic goods called wealth are the goods upon which weal, or well-being, depends. Well-being is increased when these goods are increased or economized; well-being is decreased when these goods are decreased or wasted.

How well-being depends upon wealth. This could not be said of anything which is not scarce. There is such an abundance of air, for example, under ordinary circumstances, that no one would be any better off than he is now if the supply of air could be increased, nor would anyone be any worse off if the supply of air were slightly decreased. In other words, no one's well-being depends upon *more* air, even if it could be produced. If, however, air were so scarce that there was not enough to go around, then not only would it need to be economized very carefully, but there would be some advantage in producing more of it. The weal, or well-being, of mankind would be improved in proportion as more air could be produced; mankind would be injured in proportion as air was wasted or destroyed. While, therefore, we can say that air is a necessity in a certain absolute sense, yet in a practical

economic sense we cannot say that anyone would be better off if more air were produced or if it were even wisely economized; nor can we say that anyone would be worse off if a little air were destroyed or wasted. There would still be enough to satisfy everybody. That is why air, though an absolute necessity, is not an economic good. We should gain nothing by trying to increase the supply or to economize in the use of the existing supply. Since we do not gain anything by economizing it, it is not an economic good. Where abnormal circumstances arise, in which there is not enough air, then it has to be economized and becomes at that particular time and place an economic good. If such circumstances could last, air would become wealth in the same sense that food, clothing, fuel, and certain other things are now wealth. It would then be true of air, as of these other things, that well-being could be increased by producing or economizing air and decreased by destroying it, wasting it, or otherwise making it scarcer.

The question of having more or having less. Water is another illustration, perhaps a better one because there are many places where water is so abundant that it does not have to be economized at all, while there are other places where it is so scarce that it has to be economized very carefully indeed. In the former places water is not wealth; in the latter it is. In the former no one labors to secure any more; in the latter they do. In the former no one would be better off if there were more water; in the latter some people would be better off. In the former, well-being does not depend upon a little more or a little less water; in the latter it does. In the former class of cases there is no occasion for economizing water; in the latter it is very important that it be economized and made to go as far as possible. In the former class of cases the formula "more water, greater well-being; less water, less well-being" is not true; in the latter it is true. This is the test in every time and place as to whether water is wealth or not. All that has been said of water may be said of anything else.

The same test must be applied to determine whether it is wealth or not. As a matter of fact, water, like a great many other things, is sometimes too abundant, — so abundant that men find it to their advantage to go to considerable pains in order to get rid of some of it or to lessen the supply. In such cases it may be called *illth*. In the diagram on page 16 is a classification of all tangible objects with which it would be possible for man to concern himself. Those which are harmful to him he must try to exterminate. Toward those which are useless without being in the way or being otherwise harmful he is indifferent. Those which are useful to him, called goods, concern him most. Of these, some are too abundant at certain times and places. In such times and places his attitude toward them must be very much the same as that toward those which are positively harmful. Yet when they exist in smaller quantities, that is, in quantities less than he needs, he will strive as hard to get more as he will strive to reduce the supply when it is too abundant. Water in swampy land is an example of overabundance; in desert land, of underabundance. Manure in a city livery stable is an equally good example of overabundance; in a sterile field, of underabundance. If the owner of the stable could not sell the manure, or induce someone to take it away, he would be willing to pay someone to remove it. To the market gardener it is wealth; and if he cannot otherwise secure it, he will pay the owner of the stable for it. In that case it is scarce from the standpoint of the whole community, and is therefore social wealth. If, however, there is more than even the market gardeners and farmers can use, they would be paid for hauling it away instead of having to pay for the privilege. Such goods, when they are overabundant, may, as suggested above, be called illth, to distinguish them from those which are underabundant and called wealth.

Relation of value to economic goods. We have gone to considerable pains to point out that one characteristic of economic goods is that they are always scarce. It is this which gives

- TANGIBLE OBJECTS
  - Harmful to man
  - Useless but not harmful to man
  - Useful to man (Goods)
    - Too abundant for man's welfare (Nuisances, or illth)
    - Sufficient but not too abundant for man's welfare
    - Insufficient for man's welfare, that is, scarce (Economic goods, or wealth)
      - Incapable of being increased by human effort
      - Capable of being increased by human effort (Products)

Particular attention is called to certain resemblances between objects which are positively harmful and those which, though in themselves useful, become, at certain times and places, harmful through their too great abundance. Man's attitude is likely to be hostile to both alike. There is also a certain resemblance between those which are useless but not harmful and those which are useful but sufficient. Man's attitude toward both is likely to be that of indifference.

them the power to induce men to work. Another characteristic is that they all have value, or power in exchange. The power to command other desirable things in peaceful and voluntary exchange — that is, value — is very much the same as the power to induce men to work. That is to say, the thing which possesses one kind of power will always possess the other, if indeed it be not incorrect to speak of them as different kinds of power. The object which possesses this power to appeal to human motives in such a way as to induce men either to give up some desirable object in exchange for it or to labor in order to produce it, is always said to be valuable. This power depends in all cases upon the scarcity or insufficiency of the existing supply of the object in question. This simply amounts to the truism that a thing would not possess this power unless someone could be found who wanted more of it than he had. If a person or a considerable number of persons can be found who want more than they have, there will be someone who will give up something in order to get more or who will work in order to produce more. These things, again, are economic goods, or wealth. Since, as we have just shown, they all possess value, it amounts to the same thing to say that wealth consists of things that have value. In short, such words as *wealth*, *value*, *economic goods*, and *economy* all center around the one great fact of scarcity, that is, the insufficiency of certain things at certain times and places to satisfy desires. Out of this great fact grow also such ideas as property, industry, and foresight. No one wants to secure property rights, for example, in anything of which everybody has enough. But when anyone fears that there may not be enough of a certain thing to go around, and that he may, therefore, be left out, he naturally wants to guard against that calamity by getting possession of a supply. He will try to get possession of a supply either by producing it himself or by buying it of someone else, and he will try to guard his treasure carefully. When the State steps in and undertakes to protect him in his

possession, he has then secured a property right in the thing in question. Again, productive industry, as already shown, is directed toward alleviating scarcity or increasing the supply of something whose supply would otherwise be insufficient. Frugality and foresight are exercised to provide against further scarcity.

Meaning of scarcity. Now scarcity means nothing except insufficiency in a given time and place to satisfy the desires which exist in that time and place. It does not mean rarity, because, no matter how rare a thing may be, if there is as much as is wanted, it is not scarce; and no matter how great the total quantity, if there is less than is wanted, it is insufficient, or scarce. And it is always well to bear in mind that a thing is scarce, if at all, because the available quantity *in a given time and place* is insufficient. No matter how much water there may be in the Mississippi River, it does not alter the fact that water is scarce a few hundred miles to the westward; no matter how much copper there may be in the bowels of the earth, it does not alter the fact that there is less copper in available form than is needed on the surface. It is this fact which induces men to labor to move things from one place to another.

Before proceeding farther it is necessary to make one important qualification. Men do not always know upon what their weal, or well-being, depends. If they are mistaken on any phase of this question, they will be placing a high value upon some things that are not good for them, and a low value or no value at all upon some things that are good for them. They are poor economizers who do this, but there are many poor economizers in the world. This is the same as saying that they will sometimes desire more of a thing than they have, when they really have too much already, or less than they have, when they really have too little already. With this qualification in view, all we can say is that men will *regard* as wealth everything upon which they *think* their well-being

depends in the practical economic sense described above. That is, if they *think* they need more than they have, they will strive to get more, either by offering something for it, thus giving it a market value, or by trying to produce it, thus creating an industry. This explains why it is that the student of economics is sometimes compelled to include among economic goods, or wealth, articles which he himself would not use or which he regards as deleterious, such as opium, alcoholic drinks, or tobacco.

Importance of desiring the right things. Teaching or persuading people to want the right things has commonly been regarded as the work of the educator and the preacher rather than the economist. The latter has not generally undertaken to pass judgment on the wants of the people. He has assumed, rather, that his work was done when he had shown how such wants as the people happen to have are satisfied and may be satisfied more and more fully. But no one who really has at heart the welfare of the people can be indifferent to the quality of their wants or desires. What men want most they will try hardest to get; the character of their wants or desires, rather than their real needs, will therefore determine the character of their industries and their government. But, more important than that, if their desires are opposed to their needs (that is, if they desire things that are harmful to them), then the more efficient their system of production becomes the more harm they will do themselves. In that case an efficient industrial system promotes national deterioration rather than national well-being. If one were to make a study of the wreckage of nations, one would probably find that more had decayed because their wants were wrong than because they were not able to supply their wants. That is one reason why, as stated earlier in this chapter, the subject of consumption is of such tremendous importance.

Necessity of economizing means of production. Thus far in discussing the necessity for economy we have been considering the direct satisfaction of wants and the means thereto. But the

necessity for economy extends much farther than this. In the effort to overcome scarcity, that is, in the production of goods, it is necessary to make use of various factors of production, such as labor, tools, raw materials, etc. These also are scarce and have to be economized. To be sure, many things that are essential to production are not scarce. These are not considered as factors of production; that is, they are not *economic* factors of production at all. Carbon dioxide is just as essential to the growing of plants as nitrogen, phosphorus, or potash; but there is plenty of carbon dioxide in the air, whereas in most soils nitrogen, phosphorus, and potash are scarce or tending to become scarce. Therefore these three substances are considered as factors (that is, economic factors) in plant growth. Applying the same formula here as we did to other things earlier in this discussion, we can say, and say truly, "More nitrogen, more plant growth; less nitrogen, less plant growth." Therefore agricultural production is increased by increasing the nitrogen in the soil. The same may be said of phosphorus and potash, but the formula does not seem to apply to carbon dioxide. This is a principle of the very greatest importance, as will be seen later. Some of the greatest problems in economics and social justice depend upon this principle and are incapable of solution without it.

Why a thing has value. The fact that desirability and scarcity, and these alone, give value to a thing is perhaps clearly enough established by this time. Few will care to question the statement that not only must a thing be desired, but more must be desired than there is to be had, before men will strive to get more either by purchase or by production. Moreover, this is as true of a factor used in production, such as tools, as of an article of direct consumption, such as bread. It may not be quite so obvious, but it is none the less true, that this is also one of the great sources of that conflict of human interests which gives rise to most of our problems of justice and equity. This will be discussed in the next chapter.

TEN CHARACTERISTICS OF ECONOMIC GOODS, OR WEALTH

1. They are scarce; that is, there is less of them than is wanted.
2. They have to be economized.
3. Well-being is thought to increase as they increase and to decrease as they decrease.
4. Men labor to produce them, that is, to make them less scarce.
5. Men try to secure them by purchase.
6. They have value, or power in exchange.
7. They become the subject of property rights.
8. Wise men exercise frugality and foresight with respect to them.
9. There is a conflict of interests among men with regard to them, because there is not enough of them to go around and satisfy everybody.
10. They give rise to questions of justice and equity.

CHAPTER III

SELF-INTEREST

The fact that we are going to study the problem of national prosperity and progress certainly implies that we have an interest in it. It probably implies also that we care somewhat more for the prosperity or progress of our own nation than for that of other nations. That would mean that we are somewhat self-centered. Even the humanitarian who professes to care for mankind above all nations seems still to prefer mankind to other species. There are people who have so deep an interest in animals as to make them unwilling to sacrifice any animal for the benefit of mankind. They are slightly less self-centered than the humanitarians, but even they cannot take quite the same interest in the lower as in the higher animals. In short, no one can avoid being slightly self-centered, caring more for some animals than for others, for certain races or nationalties of men than for others, or even for certain persons than for others. Generally it will be found that those species, nationalities, or persons for whom we care most are in some sense nearer to ourselves than those for whom we care least.

This fact of self-centered interest must be taken as one of the original, or primary, facts in our problem of nation building. It is therefore very important that we examine it and see exactly what it means.

What is self-interest? Our discussion will center naturally around two main questions: first, what does it mean to be self-interested; and, second, is it a good or a bad thing for each individual to be self-interested, or at least slightly self-centered, as we shall call it. In discussing the first of these questions

it is not necessary to go very far into that form of hair-splitting analysis which considers whether benevolence is not merely another form of selfishness.[1] It is sometimes argued by a certain kind of sophist that the benevolent person is benevolent because he gets pleasure from being benevolent. Since it gives him pleasure, it is only a form of self-gratification; and since it is only a form of self-gratification, it is only another form of selfishness. It may be true, from a certain point of view, that a man may get more pleasure from the taste of food upon the palates of his children than upon his own. A sophist might say that he was as truly selfish as a man who got no pleasure whatever from the taste of food upon any palate but his own. However, no sensible person would remain long in doubt as to which would make the better father. There is no doubt that the man who takes some delight in the welfare of his neighbors and fellow citizens is a better neighbor and citizen than a man who takes no pleasure whatever in such things.

In trying to understand what self-interest really is, there are two extreme views to be avoided. One is that *self-interest* means such extreme selfishness as to show no regard whatever for the interests of others; the other is that *benevolence* means a real preference for other people as compared with self. Now *self-interest* simply means some preference for self as compared with certain other people; and *benevolence*, instead of meaning a preference for other people, is quite compatible with some degree of preference for self. There is probably no human being who has not some interest in other people besides himself; neither is there anyone who does not care more for himself than he does for other individuals outside a rather narrow family or neighborhood circle.

The difference between a selfish and a benevolent person. As a matter of fact, the difference between a selfish and a benevolent person is one of degree. An extremely selfish

[1] See the author's "Essays in Social Justice," p. 60. Harvard University Press, 1915.

person is one who has an extreme preference for self as compared with others, and whose interest in other people does not extend beyond a rather narrow circle of relatives, friends, and neighbors. An extremely benevolent person is one who has only a mild preference for self as compared with others, whose interest in others extends to a rather wide circle of relatives, friends, neighbors, fellow citizens, and many other human beings, and who even includes some of the kindly animals in the circle of his care and protection. To prefer the satisfaction which the expenditure of a dollar on charity gives me to the satisfaction which it would give me in the gratification of my own palate does not mean that I have a deeper interrest in the receiver of my charity than I have in myself. If I spent the dollar upon myself, it might supply only a trifling need or gratify a mere whim or caprice, because I have spent so many other dollars on myself as to have supplied all my principal needs. But when it is spent in charity, it may supply a vital need of someone else. If I were in exactly as great need as he of the objects which my last dollar would purchase, and I then gave him my dollar, that would show that I appreciated his interest as highly as my own, or even more highly than my own. If there are a number of people in whom I am so deeply interested as to be willing to sacrifice myself even to a slight extent, I should pass for a fairly generous man. But while I am writing this I am fully conscious of the fact that there are people in various parts of the world who are suffering from hunger, cold, and sickness. Yet I sit comfortably in my room instead of going out to find them and share my last dollar with them. They are so far away in space, or they are so far removed from myself in race, language, religion, or color that I cannot cudgel myself into caring as much for their comfort as I do for my own. If they were near neighbors, near relatives, I would take a deep interest in them. Will the reader ask himself if he is not in about the same condition?

The way in which I appreciate an income for myself more than I appreciate an income for someone else may be illustrated by means of the diagrams below:

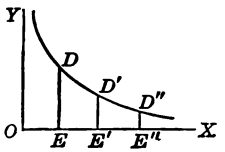


Diagram A
A's appreciation of his own income

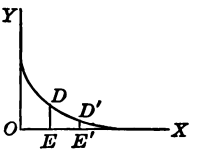


Diagram B
A's appreciation of B's income

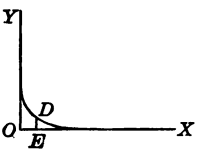


Diagram C
A's appreciation of C's income

In Diagram A, let us measure the income of a certain man, whom we shall call A, along the line OX, and his appreciation of, or interest in, each dollar of his income, along the line OY. Thus, if his income is equal to the line OE, his interest in each dollar is measured, let us say, by the line DE. But as his income increases, each dollar becomes a matter of less consequence to him. He could spare it with less real sacrifice, because, having so many other dollars, he can still supply himself with all the necessaries of life and some unnecessary things besides. In other words, if we assume that his income increases from a quantity measured by the line OE to a quantity measured by the line OE', then his interest in each dollar will decline from an intensity measured by the line DE to an intensity measured by $D'E'$. Another increase, say to the line OE'', would bring another fall in his appreciation, or interest, say to the line $D''E''$. From these assumptions we may derive the curve $YDD'D''$ to indicate his appreciation of, or interest in, each dollar of his income.

Another way of stating the case is as follows: Assuming that his income is measured by the line OE'', to give up one dollar of his income would cause him a sacrifice measured by the line $D''E''$. He would merely have to give up some unimportant luxury for which he does not care very much. If he were to keep on giving until there remained an amount measured

by the line OE', he would have deprived himself of more and more important things, or of things for which he cared more and more. To give away still another dollar would cost him a sacrifice measured by the line $D'E'$. If now he keeps on giving until there is left only an amount equal to OE, he will be cutting so deeply into his own needs that each dollar given away would deprive him of something very important to his own well-being, and would occasion him a sacrifice measured by the line DE.

Interest in those near to self. But this man has an interest in someone else and is genuinely desirous of seeing that other person comfortable and happy. In case that other person is peculiarly dear to him, his appreciation of that person's income might be quite as high as his appreciation of his own. In that case the same curve, $YDD'D''$ in Diagram A, would represent his appreciation of the other person's income. But he will not feel so deep an interest in very many people. After you get beyond the members of his immediate family and a few intimate friends, if he is a generous man, and even before that if he is a selfish man, you will find people in whom he has no such intense interest. In this case his appreciation of the importance of an income to that other person will be represented by Diagram B.

In Diagram B we will measure the income of the other person, whom we shall call B, along the line OX, and A's appreciation of B's income along the line OY. If B's income is very small, measured, let us say, by the line OE, A will desire to see that income increased. The intensity of that desire of A is measured, let us say, by the line DE. If now A's income is measured in Diagram A by the line OE'', he will be willing to give up a part of his own income in order to add to B's income. The line DE in Diagram B is longer than the line $D''E''$ in Diagram A.

This kind of giving is quite consistent with the fact that A cares a great deal more for himself than he does for B.

The relative height of the two curves $YDD'D''$ in Diagram A and YDD' in Diagram B indicates the degree of preference for himself. Under the conditions represented in the two diagrams, A will by no means divide evenly with B. That is to say, he will not cut his own income down from an amount measured by OE'' to an amount measured by OE' in Diagram A, in order to increase B's income to an amount measured by OE' in Diagram B. That would give them equal incomes; but A's enjoyment of the last dollar of B's enlarged income would be measured by the line $D'E'$ in Diagram B, while if he had kept that dollar for himself, his enjoyment of it would have been measured by the line DE in Diagram A.

Interest in others who are not so near to self. When it comes to some other person, whom we shall call C, who is so distantly removed from A in space or in kinship that A takes very little interest in him, we may find that A's interest is represented by the curve YD in Diagram C. Applying the same comparisons between Diagrams A and C that were made between Diagrams A and B, we shall find that A might give up a dollar to keep C from starvation, if C's condition were presented to him pretty strongly, but that is about as far as A will go in relieving C's distress.

Under the conditions that we have described, A would pass as a very benevolent man. If he were what is ordinarily regarded as a selfish man, the curves YDD' in Diagram B and YD in Diagram C would merely be somewhat lower than we have drawn them, or the curve $YDD'D''$ in Diagram A would be higher than we have drawn it.

Nearness in kinship. Even though a generous man will care a great deal for the interests of a great many other people, nevertheless he is somewhat self-centered in his appreciation of or interest in others. He will care more for some people than for others, — more, for example, for his own wife and children than for other men's wives and children, more for his own relatives than for other people's relatives, more for his

own neighbors than for other people's neighbors, more for his own fellow citizens than for the citizens of other countries. Those for whom he cares most, or whose interests he feels most keenly, are those who are in some way closely associated with himself. They are near to him, if we may be permitted to use the word *near* in several senses besides the geometrical or geographical sense. They may be near to him in point of kinship. Thus, other things equal, he will be more generous toward his near of kin than toward those who are distantly related to him, toward human beings than toward animals, and more toward the higher than toward the lower animals. Again, mere geometrical nearness counts as a factor. A man who is suffering at his door or in his immediate neighborhood will move him more than a man who is suffering equally but who is a long way off. This may sometimes be a stronger factor than nearness of kinship. That is, a near neighbor who needs help will appeal more powerfully to his sympathy than a near relative who lives a long way off. He may even do more for an animal with whom he is closely associated, such as a favorite horse, dog, or cat, than for some human being who is far away. Space is almost as important a factor as kinship in limiting his interests.

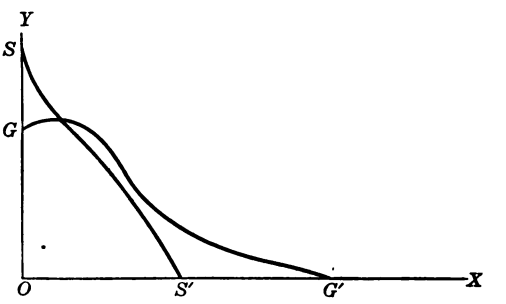
Nearness in time as well as in space. Time is also a factor. Our generous man is more interested in his immediate children than in his distant descendants, more in his contemporary fellow citizens than in future generations. He is more interested even in his own present wants than in his future wants.[1]

There are other senses than space, kinship, and time in which the word *near* can be used. There are those who are near in the sense of like-mindedness. They who think and feel on most important questions as he thinks and feels may be said to be near him in a very important sense. He is pretty certain to care more for them, other things equal, than for those who think and feel differently. This may sometimes

[1] Cf. Chapter XXXV, on The Source of Interest.

prove so strong a tie as to cause him to desert not only his neighbors and fellow citizens, but even his family, in order to take sides with those who think and feel as he does.

In short, a man's interest in others is limited by the factor of distance in space, time, or kinship, and in unlikeness, either physical, moral, or mental. The greater the distance which separates them from him in any or all of these respects, the less his interest in them tends to become; while the nearer they are to him in any or all of these respects, the more intense his interest in them tends to become. He is thus self-centered in his appreciation of the interest of others even when he is broadly generous. When he is narrowly selfish, he is more narrowly self-centered.



Self-centered appreciation. This principle of self-centered appreciation may be illustrated by the diagram above.

Let us assume that the individual's appreciation of the interests of various persons, including himself, is measured along the line OY. Then let us assume that he himself stands at the point O, while others are ranged along the line OX in the order of their nearness to himself in some of the senses in which we have used the word *nearness*. Let us take kinship, for example. Those nearest of kin would stand on the line OX nearest to the point O, and those most distantly related near the opposite end, or the point X. We will now let the curve SS' represent the selfish man's appreciation of the interests of various persons. The line OS measures his appreciation of his own interest, or his interest in himself. His appreciation of the interests of another person is measured by

the perpendicular distance from the point on the line OX where that person stands to a point on the line SS'. Thus his appreciation of the interests of his immediate family may be almost as high as his appreciation of his own interest. But he cares so little for other people, and those for whom he cares even a little are so few in number, that the curve SS' falls very rapidly. Distant relatives who stand beyond the point S' on the line OX do not concern him in the slightest degree. He has no appreciation at all of their interests.

In the case of G, who is a generous man, the curve is different. It is represented by the curve GG'. Following the same explanation as was given of the curve SS', we find that the curve GG' represents him as caring a little more for a very few persons than for himself. Then his interest in others begins to decline the farther they are from himself, until, when we find some who are so far removed as to stand beyond the point G' on the line OX, his interest in them disappears altogether.

Any being who did not show such preferences as these would scarcely be human. He who would not sacrifice a trifle even to save the life of his nearest of kin, or his nearest neighbor, would not be a man but a devil. Again, he who would not show more interest in his near of kin than in his distant of kin, in his near neighbors than in his distant neighbors, in his fellow citizens than in the citizens of other countries, in kindly disposed men than in evil-minded men, in men than in animals, or in the higher than in the lower animals, would not be much better than a devil. If, in a struggle between a man and a tiger or a man and a disease germ, he did not show some disposition to favor the man, or if in the struggle between a good man and a criminal he did not show a preference for the good man, we should probably call him by some pretty hard names. Zeus alone among the gods has been represented to us as showing no preference for either the Greeks or the Trojans in their memorable struggle.

All the lesser gods showed preference and took sides, but he maintained an attitude of supreme indifference to the petty quarrels of mortal men. If you will try to appraise his morals, you may find some difficulty in deciding whether they were godlike or devilish. They certainly were not human.

Does it work well to be self-centered? We come now to the second of the questions stated at the beginning of this chapter. Does it work well or badly for the individual to show self-interest or to be self-centered in his appreciation of human interests? No one is likely to deny that he should show a preference for human beings as compared with other creatures. We hear a few vague suggestions now and then to the effect that each one should be a friend to man and that he should not show preference for special groups or classes of men. Aside from the vagueness of the idea of friendship to man there are one or two difficulties. Suppose you found a person who was not a friend but an enemy to man, should you befriend him or not? If you befriend an enemy of man, are you yourself a very good friend to man? In order to befriend man must you not be an enemy to the enemies of man? If so, you must discriminate and show a preference for the friends of man as against the enemies of man. In other words, you must divide men into at least two classes, namely, the friends and the enemies of man, and show more regard for and interest in one class than in the other. In the case of the average individual these classes resolve themselves into those whom he approves, on the one hand, and those whom he disapproves, on the other. If he is wise in his approvals and disapprovals, this will probably work well. He lends his encouragement and strength to those who pass it on, — who use the strength which they receive from his friendship in doing good rather than evil. Thus the giver does more good than he would if he gave his encouragement and strength to evil men and good men alike. He should show at least that degree of preference for some men as against others.

Preferring some people to others. But, granting that one may be justified in showing a preference for good as compared with bad men, is one justified in showing a preference either for himself or for those who are near to him in any of the senses which we have been discussing, that is, for his family or his neighbors as compared with others outside those circles? There is something to be said in the affirmative, provided the preferences are not too extreme. Volumes have been written on this and similar problems, and doubtless many more will be written. The affirmative argument may be briefly stated in the form of a series of propositions:

1. *Who ought to look after and safeguard each interest?* Every interest ought to be safeguarded and provided for by the person who can do so most effectively. National or social welfare consists in the most complete satisfaction of all the interests of all the people. The more fully and completely every interest is safeguarded and provided for, the greater the prosperity and welfare of the whole group. Therefore, when each and every interest is looked after by that particular person who can look after it most thoroughly and successfully, the social welfare will be greater than it would be if some interests were looked after by persons who were not best fitted to do so.

2. Generally speaking, but with a few exceptions, each and every interest can be safeguarded and looked after by that person who knows and understands it most intimately. Jones probably knows his own interests better than he knows those of Smith. If so, he can usually look after his own interests more effectively than he can attend to those of Smith. Likewise, and for the same reasons, Smith can look after his own interests better than he can those of Jones. Under these circumstances the interests of both Jones and Smith will be looked after better if each looks after his own than if each looked after the other's. However, there may be exceptions to this rule. Jones may know his own interests better than

Smith, but may be in some unfortunate condition which renders him unable to look after them. In such a case, even though Jones does know his own interests better than Smith, Smith may nevertheless be able to look after them better than Jones can. In such a case it would promote the prosperity of that community of two if Smith would spend a part of his time looking after Jones's interests. However, as soon as Jones recovers from his incapacity, it will be better for both if they return to their normal habits and each looks after his own interests.

3. *Who knows each interest most completely?* Generally speaking, but with a few exceptions, the individual of mature years and sound mind knows his own interests more intimately than other people know them, and also more intimately than he knows the interests of other people. Young children, of course, do not know their interests as well as these are known by their elders; nor do persons of unsound mind know their interests as well as these are known by individuals of sound mind. Occasionally a mature person of sound mind may be mistaken in his judgment as to his own interests, and some exceptionally wise friends may know them better than the person himself does. In all these cases there are excellent reasons why wiser persons should take a great deal of interest in the affairs of those less wise than they; but it is well not to be too hasty in assuming that you are wise enough to look after the interests of a mature person of sound mind better than he can do it himself.

4. Generally speaking, but with a few exceptions, the individual knows the interests of his near of kin better than he knows those of his distant of kin, of his fellow citizens better than those of citizens of other countries, of members of his own race better than of members of other races. He is in much more intimate contact with the members of his immediate family than with others, and, even aside from all questions of affection, he can gauge their desires and understand their

needs better than he can the desires and needs of those with whom he is not so intimately associated. That is a sufficient reason why, in the economy of nature, he should care more for them than for others. If he were driven by his affections to try to care for those whom he did not understand, while neglecting those whom he did understand, he would bungle much more than he does. Therefore nature is wise in so ordering things that affection and understanding normally go together.

5. Generally speaking, but with a few exceptions, the individual knows the interests of his near neighbors more intimately than he knows those of his distant neighbors. Here again it is a wise provision that friendship and understanding go together.

6. *Whom can we reach with the least waste of energy?* Generally speaking, but with a few exceptions, the individual can reach his near neighbors with less effort and waste of energy than he can reach his distant neighbors. It is wise, again, that neighborly feeling develops where there is the most power to help. If each man neglected his near neighbors and attempted to look after his distant neighbors, while their near neighbors in turn neglected them and tried to look after their distant neighbors, there would be much working at cross purposes, and much energy would be wasted because each tried to do that which he was not well situated for doing, while neglecting the work which he was well situated for doing.

In conclusion, it is pretty clear that, as a general rule, a community in which each individual works effectively, looking after those interests which he can look after most successfully and with least waste of effort, is better than one in which each individual works ineffectively, trying to look after interests which he can look after less successfully and with greater waste of effort. Since each individual knows his own interests and the interests of those nearest him better than he knows the interests of those farther away, we must justify at least a moderate amount of self-preference, or self-centered

appreciation of the interests of others. But it is difficult to tell just how far this rule should be carried. When communication and transportation were very difficult, the obstacles in the way of helping people who were a long way off would have made it very wasteful to try to do very much for them. Only one's near neighbors could be helped effectively; and other people outside that circle had to be left to their near neighbors, if they could not look after themselves. Now that the obstacle of distance is not so great, it would seem to be economical to widen one's geographical neighborhood somewhat.

Harnessing self-interest to public uses. Law and government can do little or nothing toward eliminating self-interest, even if it were desirable to do so, which it is not; but it is possible to harness it to the good of the nation. Assuming that a man will try hard to promote his own interests and the interests of those nearest to him, it is only necessary to confine his efforts to the field of usefulness or productivity. If he is never allowed to rob, steal, or do any injurious act in trying to promote his own interest, but is told that he will be permitted to do anything useful and receive pay for it, or to produce some desirable product and sell it, he will then have a very strong reason for doing useful things or producing desirable objects. If a desirable object is produced, not because the producer has a benevolent interest in the consumer, but because he has a selfish interest in the price which he can get for it, it will do the consumer just as much good as though it were produced for benevolent reasons. When everyone is driven by self-interest to produce as much as he can or render as good service as he can, there will be a great deal produced and much good service rendered. Therefore, even if one did not approve of any degree of self-interest whatever, one might consistently admit that the law was making the very best of a bad situation by thus harnessing that powerful motive to useful service and productive work. Seeing that the law could not possibly transform self-interested persons into benevolent

persons, the next best thing would certainly be to hedge them about so as to make it impossible for them to pursue their own self-interest in any except useful and productive lines.

No visible harmony of human interests. This does not assume that there is any such thing as a natural harmony of human interests. If anything is clear, it is that human interests are frequently in conflict. Unless there is an umpire or a tribunal to decide these questions of conflict, an overdeveloped self-interest will frequently drive men into actual conflict, or lead one to do something in his own interest which would be injurious to others. It is one of the functions of law and government to adjudicate these conflicts, and also to forbid, with suitable penalties, any injurious act. When the laws are intelligently framed and rigidly executed, this leaves the individual no choice. However self-interested he may be, and however indifferent he may be to the interests of others, he must seek his self-interest by useful rather than by injurious acts. When he is thus efficiently controlled, the more intense his self-interest becomes, and the more intense his interest in his family or near friends, the more intensely he will strive to do useful things, not because he wants to be useful, but because he wants the reward of usefulness. To harness this powerful motive of self-interest to the kinds of work which benefit the nation — which increase wealth and prosperity — is like harnessing a great natural force like steam or electricity. In the one case the harness consists of laws and regulations; in the other it consists of mechanical devices.

CHAPTER IV

COMPETITION

The struggle for existence. It is a common error to speak of competition as though it were synonymous with war or with the struggle for existence as it is carried on among brutes. That it is a form of conflict there can be no doubt, nor can it be denied that it is a phase of the all-but-universal struggle for existence. But there are many forms of conflict besides war, and there are many ways of struggling for existence without resorting to the destructive methods of brutes. The forms of conflict, or the methods of struggling for existence, may be classified as follows:

- Methods of Struggling for Existence
  - Destructive
    - War
    - Robbery
    - Dueling
    - Sabotage
    - Brawling
  - Deceptive
    - Thieving
    - Swindling
    - Adulteration of goods
    - False advertising
  - Persuasive
    - Political
      - Courting for royal favors
      - Courting the sovereign people
      - Campaigning for office
    - Erotic
      - Polite social intercourse
      - Courting
    - Commercial
      - Advertising
      - Salesmanship
    - Judicial
      - "Leaving it to the crowd"
      - Litigation before courts
  - Productive
    - Rivalry in producing goods
    - Rivalry in rendering service

Various forms of conflict. The methods named in the foregoing outline may be explained and illustrated as follows: By destructive methods are meant all those whereby one succeeds by virtue of one's power to kill, to hurt, or to inspire fear of physical injury or pain. *War, robbery, dueling, sabotage,* and *brawling* are names for methods of destruction as carried on by human beings; but it must be remembered that animals also kill, rob, inflict injury, and inspire terror. By the deceptive methods are meant all those by which one succeeds by virtue of one's power to deceive, to swindle, or to cheat. Animals practice deceit, though we do not call their forms of deceit by such names as *swindling, counterfeiting, adulteration of goods,* etc. By the persuasive methods are meant all those methods whereby one succeeds by virtue of one's power to persuade or to convince. One may beat one's rival by being a more persuasive talker, whether one is striving for favors from the sovereign person or from the sovereign people, whether one is striving for the hand of a lady, the decision of a jury, or the trade of a possible customer. This form of conflict would remain even if we could eliminate all other forms. Even under the most complete form of communism there would remain abundant room for the persuasive forms of conflict. By the productive methods are meant all those methods whereby one may beat one's rivals, or gain advantages, by virtue of one's power to produce, to serve, or to confer benefit.

The same persons may resort to more than one of these methods in order to gain an advantage. When two farmers compete in growing crops, they are struggling for existence, or for economic advantage, by a productive method. When they quarrel over a line fence and take their quarrel before a court for adjudication, they are struggling by a persuasive method. When they secretly alter or remove landmarks in order to gain an advantage in their litigation, or when they bribe jurors, they are struggling by a deceptive method. When they fall to

fighting either with fists or with weapons, they are struggling by a destructive method. When they change their methods in the order just described, they are sinking lower and lower in the scale; that is, they are resorting to worse and worse methods of struggling for existence or advantage. When they rival one another in growing corn, there is more corn grown as the result of that rivalry. The country is better fed and everyone is better off, except possibly the one who is beaten, and even he may very likely be better off than he would have been if he had not competed at all. When two farmers quarrel over a line fence and take it into court, no one gains any benefit except the lawyers, and what the lawyers gain the litigants lose. No new land is created by that conflict. No new wealth is produced. The community is no better fed, and the litigants have wasted their time. To change from persuasion to deception, or from deception to physical force, is so clearly to sink to a lower level that it is unnecessary to pursue the topic farther.

Destructive and deceptive methods of brutes. It will be apparent to anyone who will study the diagram that among animals the destructive and deceptive methods are the characteristic forms of struggle. They kill, maim, injure, rob, and deceive one another with no moral or legal restraints. They may sometimes rise to the level of persuasion, as in the courting process, but never to the level of production; that is, no animal ever tries to beat its rival by producing a larger or better product or rendering a greater or better service. Among human beings who have no moral sense, and who are unrestrained by law and justice, the destructive and deceptive methods of struggle will be followed, as well as the persuasive and productive methods; but the destructive and deceptive methods are precisely the things that morals and laws are designed to prevent. In any civilization worthy of the name, and under any government worthy to stand overnight, men are actually restrained by their own moral feelings, by the

respect for the good opinions of their fellows, and by the fear of legal penalties, from attempting to promote their own interests by destruction or deception.

Meaning of crime. To say that men are restrained from doing these things is not the same as to say that they are absolutely prevented. Crime still flourishes, but it must be remembered that what we call crimes for human beings are not crimes for brutes, for the simple reason that brutes have none of those restraints which men throw around themselves. The fact that we call all destructive methods, and the more grossly deceptive methods, crimes, and impose penalties against them, shows that we are trying to raise the struggle for existence to a higher plane than that on which it is waged in the subhuman world. The aim is to prevent destruction and deception, and to compel men to succeed, if they succeed at all, by persuasion or production. No government, however, is so efficient that it can prevent all destruction or deception. "The mills of *man* grind slowly *and* they grind exceeding *coarse*." Besides, there are some more or less refined methods of deception which have not even been declared illegal by legislation. If we can so improve our legislation as to prohibit every form of deception as well as destruction, and if we can so improve our executive and judicial systems as to prevent absolutely the violation of law, we shall have reached the ideal of government control over the struggle for existence. To stop productive competition and compel us all to struggle for our own advantage by the persuasive methods would be a distinct step backward.

Is it wrong to compete? There are a few people who object on principle to all forms of competition, — who believe that the whole competitive system is morally wrong. This feeling, however, is probably due to a failure to discriminate, as we have tried to do in the preceding pages, between different kinds of conflict. The horrors of war and other forms of destructive conflict, the petty, skulking meanness which accompanies all

forms of deceptive conflict, and even the jealousies and heart-burnings which result from many forms of persuasive conflict, have so impressed certain sensitive spirits as to cause them to revolt against the very idea of competition in any form. Such people ought never to play croquet, because there is competition even there. An election is as truly competitive as any form of business.

Universality of struggle. During the entire life of man on this planet he has had to struggle in one way or another. The reason why we are here to-day is because our ancestors were successful in their struggles. They succeeded in living and reproducing their kind in spite of all the enemies and dangers which surrounded them. One reason why they struggled so successfully was that they were valiant enough to wage their fight with vigor and with spirit. That spirit we have inherited to such an extent that we cannot even amuse ourselves without some kind of competition or struggle. It is as the breath of life to our nostrils. It will be well for us if we can harness this spirit to productive work rather than allow it to waste itself in destruction, deception, or even in some fruitless kinds of persuasion. The nation which succeeds best in so harnessing this spirit to production is the nation which should normally grow rapidly in wealth, prosperity, and power.

Again, the great fact of scarcity, together with the fact, pointed out in the preceding chapter, that we all prefer some people to others, makes some form of competition inevitable and eternal. As pointed out in Chapter II, when there is not enough of a certain thing to go around and satisfy everybody, all those who prefer themselves and their own families to their rivals and their families will struggle to get their share of the scarce article. When there are not enough of the high offices to go round, there will be a similar struggle to get them. These facts have always been present in human society and always must remain, from the very nature of man and of the universe in which he finds himself. From the very nature of

the case we cannot all be leaders. If we were, there would be no followers. We would all rather lead than follow; we would rather command than obey. Therefore we shall always struggle for leadership and command. Nor can there be wealth enough to go around and satisfy everyone. If there were, wealth would cease to exist as wealth. Whenever you find a thing so abundant as that, it has ceased to count as wealth. Only those things are wealth of which we can say that more is better than less. So long as we would rather have more of a certain article than less of it, we shall strive to get more. Competition, or struggle, is therefore unavoidable. The thing to do is to make the most of it and to turn it, so far as possible, into productive channels and out of the destructive and deceptive channels.

The spirit in which one competes. In assuming the universality and permanence of competition in some form it is not necessary to exclude such things as love, friendship, neighborliness, and coöperation. Competitors in a friendly game may be none the less friendly because they are competing. It is only when they care more for victory or the prize of victory than they do for friendship that there is any conflict between competition and friendship. The cure for this, however, is not the abolition of competition, but the learning to care for the right things and to evaluate things properly. When men care more for money, which is the immediate prize of economic competition than for honor, friendship, or justice, then competition is likely to be ruthless and destructive. When men care more for offices, the immediate prize of political competition, than for the welfare of the country or the peace of the neighborhood, a political campaign is likely to become a ruthless and destructive game. And when football men care more for victory than for sport or honor, football becomes a game unfit for gentlemen. In all these cases the evil does not inhere in competition itself but in the false system of valuations in the minds of the competitors.

So long as business men realize that there are other things more precious than money, so long as politicians realize that there are other things more important than winning offices, so long as football men realize that there are other things greater than victory, all these forms of competition are thoroughly compatible with the most sincere friendship.

It has been pointed out many times that the struggle for the life of others is just as real a fact in life as the struggle for the life of self, that mutual aid is as real as mutual antagonism, and that coöperation has a place in our economic system as well as competition. All this is true, but it must not be allowed to obscure the fact that competition is a very real thing also. Back of these apparent contradictions lies the very important fact that human interests are sometimes harmonious, and sometimes antagonistic, — that they are never wholly one or the other. Where the interests of men harmonize, there is and always will be coöperation, provided they are wise enough to understand it; where their interests conflict, there is and always will be competition.

Coöperation a form of competition. Even coöperation, as it is generally practiced, is only a method of competing more effectively. There is coöperation among the members of an athletic team. Their teamwork consists in working together smoothly and effectively, but the purpose of this teamwork, or coöperation, is to enable them to compete more effectively against the opposing team. It would be difficult to find or to name an instance of coöperation which did not, directly or indirectly, enable the coöperators to compete more successfully than they were able to do when working alone as individuals. It is really the principle of teamwork applied to business competition. Within the coöperating group, as within the athletic team, competition among members is reduced. But competition between coöperating groups, or between the group and those outside the group, is quite as sharp as it would be if there were no coöperative groups. Again, when a coöperative

group becomes large, there arises within the group a certain amount of competition for offices and other advantages.

Coöperation is an excellent thing under certain conditions, and wherever the conditions call for it, every reasonable effort should be made to encourage it; but the encouragement should be given with a full understanding of its limitations and of its real relation to the competitive process. More coöperative societies have failed than have succeeded. One of the principal reasons for failure has been that the promoters have imagined that there was in coöperation something inherently superior to competition, and that it ought to be substituted for competition anywhere and everywhere. The truth seems to be that coöperation is called for only under certain special conditions where teamwork is required in order to secure large results.

Where coöperation is successful. A careful study of coöperation will show that it has seldom succeeded in the field of production. Its chief successes have been achieved in merchandizing, that is, in buying and selling. Except among a few religious societies, which are held together by a powerful religious sentiment, the author does not know of a single case where coöperative farming has succeeded. By coöperative farming is meant the running of the productive work of growing crops under a coöperative system. There are many cases, however, in which groups of farmers have coöperated in buying and selling, in marketing their products, in purchasing their supplies, and in securing capital on advantageous terms. There are also many cases in which they have coöperated in running creameries, cheese factories, and grain elevators. These are parts of their marketing system. Again, it must be remembered that the farmers do not themselves operate these establishments. They own them and they furnish the capital to run them, but they hire others to manage them and to do the work. The men who work in these establishments are not coöperators, but receive wages and salaries precisely as they would if the establishments were owned by private individuals.

Two fields for business competition. There is a fundamental reason why coöperative enterprises have not flourished in the field of production as often as they have in the field of buying and selling. This reason is found in the two kinds of business competition, — competitive production and competitive bargaining. Competitive production always works well; competitive bargaining sometimes works well and sometimes works badly. Since competitive production always works well, the need for coöperative production is never sufficient to justify its existence. No one has a sufficiently strong motive to induce him to give his time and energy to the running of a coöperative society in the field of production. Since there are no evils connected with competitive production, there is not enough to be gained by coöperative production to lead anyone to sacrifice his time and effort in order to make it succeed.

In the field of competitive bargaining, however, evils frequently spring up. Where a small and compact body of dealers are buying from a large and widely scattered body of producers, the latter are at a great disadvantage in the bargaining process. Where this is the case it is necessary for the producers to get together in a coöperative organization in order to bargain on equal terms with the dealers. Where there is such a need as this, someone will have a motive that is sufficiently strong to induce him to give his time and attention, to sit up nights, to labor in season and out of season, to keep the coöperative society together and make it succeed. Without some such motive as this, coöperation has seldom or never succeeded.

Competitive consumption. There is another kind of competition which always works badly. It is even worse than competitive bargaining. It may be called competitive consumption. By competitive consumption is meant a rivalry in display, in ostentation, in the effort to outshine or to outdress all one's neighbors, or at least not to be outshone or outdressed by them. This is not business competition, however,

though it can be called a kind of economic competition. Seeing that this is the worst form of competition, — a kind which always works badly, — it would follow that the best kind of coöperation would be a kind which would stop this process of conspicuous waste and display. A few religious sects have undertaken to do something in this direction, but they have not been very popular. Vanity is apparently an even stronger motive than greed itself. It is greed which leads to the worst evils of competitive bargaining; it is vanity which leads to the worst evils of competitive consumption.

From what has been said it will appear that economic competition is not synonymous with the productive methods of struggling for existence as outlined in the beginning of this chapter. There is such a thing, it is true, as competitive production, but competitive bargaining is partly persuasive and partly deceptive. It is persuasive when it takes the form of clever advertising, of expert salesmanship, or of shrewd and reasonably honest bargaining; it is deceptive when cleverness in advertising takes the form of artistic lying (of overstating the merits of an article advertised), or when expert salesmanship takes the same form. Competitive consumption has no productive features about it. The effort to keep up appearances, to dress better than one can afford, to spend money for purposes of display, are all deceptive, besides being wasteful and to that extent destructive. These, however, are among the more refined and less repulsive forms of destruction. For this reason, perhaps, neither law nor public sentiment has condemned them very definitely as yet.

In what fields coöperation may succeed. They who are interested in promoting coöperation should bear all this in mind. It is a waste of time and energy to try to substitute coöperation for competition in all cases. In the first place, it cannot be done, because, so long as people prefer themselves and those who are near them to others who are farther from them, competition in some form will exist. In the second

place, even if coöperation could be substituted for competition, it would be undesirable in many cases, though desirable in others; that is to say, there are some cases in which competition works so well that coöperation could not improve upon it. To be more specific, competitive production, as stated before, always works well. No one has yet succeeded in making coöperation in production, either on a large scale or on a small scale, work successfully for a long period of time. This is not saying that producers may not occasionally coöperate, as when farmers help one another in special lines of work. In our rural communities, especially in previous generations, there were many barn raisings, log rollings, corn huskings, and other examples of genuine and beneficial coöperation. But these events were only incidents in a kind of life which remained, in spite of them, predominantly competitive. Even competitive bargaining sometimes works well. Where this is the case, nothing is to be gained by coöperation, and it is therefore certain to fail, because the coöperators will sooner or later lose their enthusiasm, when they see that they are not gaining anything by it, that is, when they see that it is not working any better than competition. The would-be coöperators should choose for their field of effort some situation where competitive bargaining is working badly. There they will have a chance of success. But no coöperative scheme runs itself. Even where there is a distinct and undoubted need for it, it will succeed only when some capable person gives a great deal of time and study and hard work to it.

Compulsion versus voluntary agreement. With an unerring instinct for economic falsehood a certain class of writers have persistently obscured this question of coöperation versus competition by confusing it with working under compulsion versus working under freedom of contract. The Panama Canal was not built coöperatively. The government of the United States decided to hire others to do it instead of bargaining with contractors. They who did the work did not coöperate,

any more than the men who build our railroads and factories or work on our streets. If a large number of farmers unite to run a creamery or a shoe factory of their own, but do not work in it themselves, they sometimes call it a coöperative creamery or shoe factory. In reality it is only quasi coöperative. The people who do the work in the factory are hired and have no more to say about the management than they would have if the factory were owned by an ordinary joint-stock corporation. A coöperative shoe factory, of the class which we are now discussing, is merely an organization formed for the purpose of bargaining for its shoes more successfully than it could otherwise do. It finds that it can bargain directly with workingmen, tanneries, and others to better advantage than it can bargain with private owners of shoe factories. That is the way in which the Panama Canal was built. It was found that the government could bargain more successfully with the engineers, directors, and workingmen than with private contractors. It was as if a private citizen who was about to build a house should decide to hire his own workmen and foremen instead of bargaining with a contractor.

It is particularly erroneous to speak of an army as though it were a coöperative body. It works under authority and compulsion rather than under a system of free contracting. Soldiers do whatever they are commanded to do and not whatever they see fit to bargain to do. Experience has shown that armies can succeed in no other way. It has also shown that industry can succeed on the basis of free contract, under which no one does anything until he sees fit to contract to do so. A little military experience will thoroughly convince our people that the distinction between compulsion and freedom is not the same as the distinction between coöperation and competition.

Coöperation in setting standards of consumption. There is always an acute need for a kind of coöperation that can stop competitive consumption. Unfortunately that need is not very widely understood. One reason why it costs us so much to

live is that we are everlastingly trying to keep up with someone else. "It takes all my income," said a certain congressman, "to keep up with my fool neighbors." He was expressing in this picturesque manner one of the profound facts of our economic life.[1] The things which cost us so much money are not the things which we prize for their own sakes, but the things which we feel that we must have because our neighbors have them. We are, each of us, trying to live up to a standard set by someone else. Rich and poor alike are afflicted by the same disease. The rich are doubtless more to blame than the poor, but the poor cannot escape all blame. If they would try to live rationally, and not try to keep pace with someone else a little richer than themselves, they would not find it so hard to make both ends meet. A little coöperation among themselves, in the way of setting their own standards of dress and fashion, would be a great help. If, likewise, the well-to-do would not try to imitate those still richer, they could be saved much worry and vexation of spirit. The individual finds himself almost helpless. "As well be out of the world as out of style" is a saying which pretty well sums up the situation, so far as the individual is concerned. But a large group of people who would coöperate in the work of setting their own styles need not be either out of style or out of the world. Educated people who see the principle involved should take the lead. In so doing they would not only be doing themselves a favor, but they would be conferring a priceless benefit upon the whole nation.

[1] Compare also Mr. Irving Bacheller's book entitled "Keeping up with Lizzie."

CHAPTER V

LAW AND GOVERNMENT

The need for law. Law and government have a most important part to perform in promoting the prosperity of the people. Bagehot[1] has said that the first great need of primitive man is for law,— definite, concise law. He even argued that it is more important that the law be definite and concise than that it be just, though both are of very great importance. It is probable that a system of laws which are well understood because they are clear and concise, and which are regularly enforced without variation or favoritism, even though they are in some respects unjust, is better for a people than a system of laws which are in essence just, but which are not clearly understood and not regularly and impartially enforced; but of course it would be still better if they were both just, on the one hand, and clear, concise, and regularly enforced, on the other. When everyone knows definitely what the law is, and knows definitely that it will be enforced not only against him but equally in his defense, he at least knows what he can count upon. Nothing so discourages industry and enterprise as uncertainty as to what other men are likely to do, and uncertainty as to the enforcement of law contributes to that uncertainty as to what other men are likely to do.

The problem as to what the government can do, through its laws and its administration, for the promotion of the economic prosperity of the people, is of the very greatest importance. The specific aim should be to call out the very best and most productive efforts of every individual. Since the greatest resource of any nation is the productive energy of the people

[1] Physics and Politics, fifth edition, p. 21. London, 1879.

themselves, it follows that the conservation and development of that productive energy is the most constructive policy that any government can pursue. It also follows that the worst form of waste that any government could permit or encourage would be the waste of the productive energy of the people.

The repression of destructive and deceptive action. The first and most obvious thing which the government must do is to prohibit and prevent all the destructive and deceptive forms of conflict as outlined at the beginning of the last chapter. It is of the utmost importance that this shall be accomplished; and, what is equally important in determining the duty of the government, law and government are the only agencies which can accomplish it. He who has no moral scruples against pursuing his selfish interests by destructive or deceptive methods can be restrained only by the superior force of the many as it is exercised through the government. If he is allowed to pursue his selfish interests by these methods, he not only wastes his own powers in unproductive efforts but also tends to destroy the products of other people; and, what is more important, he discourages them from further productive effort, and thus causes their productive powers to go to waste. It may therefore be said that, whatever other functions government may have, its primary function is to repress the destructive and deceptive methods of pursuing self-interest.

The first effect of this repression of the destructive and deceptive methods is to transform the struggle for self-interest from the brutal struggle for existence, where the strong prey upon the weak and the ferocious upon the gentle, into a struggle wherein the persuasive and the productive triumph over the unpersuasive and the unproductive. If it were possible (and it probably is) to carry this repression still farther, and not only to eliminate all destruction and deception but also to eliminate from persuasion all demagogy, all appeal to passion, everything in fact except the appeal to reason and justice, then it would be literally true that reason would everywhere triumph

over unreason, justice over injustice, usefulness over uselessness, and productiveness over unproductiveness. Under such a government each and every one would succeed in getting what he wanted in exact proportion as he contributed to others what they wanted; the most useful would be the most successful, and the indispensable man would be the great man. In that situation we should have a literal fulfillment of the words, "Whosoever will be chief among you, let him be your servant." And a servant is not necessarily one who comes at your beck and call to do your bidding; he may be merely the one who does you a service or who produces what you need.

Nothing could be more favorable to the prosperity of a nation than a general following of such a rule. If we could conceive of a nation in which no one could gain anything except by producing an equivalent or by contributing an equal amount to the prosperity of someone else, then the more ardently everyone strove to better his own condition, the more ardently would he be striving to better the condition of someone else, driven thereto not by benevolence or philanthropy, but by self-interest. Then the more people there were striving to acquire wealth, the more there would be striving to produce it; and the more ardently they desired to acquire it, the more ardently they would labor to produce it. Such a nation would certainly prosper out of all proportion to a nation in which destructive and deceptive methods were practiced by a large proportion of its people.

Two ways of promoting the productive life. There are two conceiveable methods by which such an ideal might be realized. One is such a perfection of the moral nature of every person in the nation as to make him unwilling to gain anything without producing it or its equivalent or rendering a service of equivalent value. The other is such perfection of law and government as to make it impossible for anyone, however much he desired to do so, to gain anything without producing it or its equivalent or rendering an equivalent service.

In neither case would it be necessary for men to cease caring more for themselves and their own families and neighbors than for other men and their families and neighbors. In neither case would it be necessary to do away with competition, or the struggle for individual gain. It would only be necessary so to hedge men about, either by moral restraints or by positive laws, as to compel them to compete fairly, always giving an equivalent for everything they get.

It must not be hastily assumed that the repression by the government of the destructive and deceptive methods of acquiring possession of desirable things is merely negative work. By this kind of repression every producer is protected in the possession and enjoyment of the fruits of his own productive effort. Knowing that he will enjoy the full advantage of his own industry, enterprise, and foresight, he will have the strongest kind of motive for exercising these virtues to their full capacity. This lets loose the productive energy of the people in a way which would be impossible without the protection of law and government. The people can be trusted to take the initiative and start all sorts of productive enterprises if they are thus safeguarded. There is nothing any more positive and constructive than the free spirit of a vigorous race of people when they are left to direct themselves in the field of production but are restrained from entering the fields of destruction and deception. They can safely be intrusted with the task of looking after themselves if those who are criminally inclined can be prevented from interfering with them. Give the people confidence in the justice and efficiency of the government and in one another, and their own productive virtues will develop, their industrial power will multiply itself, and the prosperity and power of the nation will be assured.

Confidence and economy. Confidence is one of the greatest of all economizers of human energy. Its greatest value is not in the stability which it brings to the financial market, though that is very important. It is found rather in the unshackling

of enterprise which results from confidence in the government and in one's neighbors and fellow citizens. The average citizen has more points of contact with his neighbors, his associates in business, and his fellow citizens than with the government or the financial market. The sum total of his dealings with his fellows exceeds that of his dealings with both the government and the financial market. It is in these numerous points of contact, and in the vast sum of these dealings of man with man, that confidence produces its greatest economies, and its lack the greatest waste.

Professor E. A. Ross, in his book entitled "The Changing Chinese," mentions certain bad neighborhoods in China where the farmer must guard his rice field every night to keep his crop from being destroyed or stolen. The energy that is wasted when so many people stay awake every night must be stupendous, but this waste is a trifling matter compared with the discouragement and lack of enterprise which result from the feeling of uncertainty which such lawless conditions beget. Unless we have at some time been confronted by the same situation, we can hardly realize how much energy we save by being able to sleep at night in confidence that the products of our labor will not disappear before morning.

Before we expend too much sympathy on those Chinese farmers, we should consider the condition of the fruit growers, gardeners, and farmers in the neighborhood of some of our large towns. Unless one is very favorably situated with respect to police protection, one is frequently compelled to keep a watchman or else to expose the entire produce of his toil to the depredations of town marauders. Even though these marauders are generally thoughtless rather than vicious, their work is just as expensive to the producer as though they were degenerate criminals. They occasion the same economic waste and discouragement; they therefore detract just as much from the national efficiency and add just as much to the cost of the necessaries of life for all classes, the very poor as well as

the very rich. Their depredations are especially disastrous to the family garden, where the owner cannot afford to hire a watchman and is himself engaged in other work which makes it necessary for him to sleep at night.

Observance of law a patriotic duty. There are three reasons for choosing the orchardist and the gardener as examples of producers who gain through a government and a community in which they can have confidence, and lose through a government and a community in which they can have no confidence. In the first place, it is so obvious that it does not have to be proved, that these men are producers who contribute certain vital necessities to the prosperity and well-being of the whole community, and that the community gains when they are successful and suffers when they are unsuccessful. In the second place, certain young persons who read this book may know something at first hand about the troubles and discouragements which those producers have. In the third place, it ought to be easy for the average person to understand that any act of his which makes it uncertain as to whether or not the producer will reap certain rewards of his labor is an injury not only to the producer but to the consumer and to the whole nation as well, and that, in consequence, the observance of law and the preservation of order are as truly patriotic duties as fighting the battles of one's country.

Standardization and economy. Aside from police protection there are certain other important functions which law and government can perform better than private individuals or voluntary groups of individuals. One of the most important of these is the standardizing of coins, weights, and measures. Whatever differences of opinion may exist with respect to other functions of government, little is said or to be said against coining money and fixing the standards of weights and measures.[1] Though these two functions are grouped

[1] See the author's articles on "Standardization in Marketing," *Quarterly Journal of Economics*, February, 1917.

together in the same clause of our federal constitution, it is doubtful if it is generally understood what a close connection there is between them. Both result in great economy of effort in the transfer of goods. The economy involved in transferring coined money instead of uncoined metal is apparent. Coining the metal by a reliable and responsible government merely gives the public confidence in its weight and fineness. When it is once coined, it is enabled to pass from hand to hand without the labor of inspection on the part of everyone who receives it. Otherwise the receiver would always have to weigh it to determine its quantity and test it to determine its quality. When it is coined it "sells" (if we may speak of selling money) on grade and reputation rather than on inspection. Confidence is what makes it sell on grade and reputation; lack of confidence would necessitate inspection, that is, weighing and testing, which would be very wasteful of time and labor.

By the process of standardization any other commodity may also sell on grade and reputation rather than on inspection. This also would be economical and, as in the case of coin, would be a result of confidence. All civilized governments have done something toward standardization and the establishment of confidence by fixing uniform standards for determining quantity; that is, by fixing standards of weights and measures. In proportion as these standards are fixed and enforced by law we save time and energy in transferring goods. If it were possible to go farther and both fix and enforce standards of quality as well as of quantity, still greater economies would be effected.

Individuals and firms have frequently succeeded in standardizing their goods, both as to quantity and as to quality, so effectively that buyers can buy on grade and reputation rather than on inspection. Whenever individuals or firms succeed in inspiring such a degree of confidence, it generally increases the salability of their goods. It saves the purchaser some time and trouble, and he is usually willing to pay something

for that saving. Only the government, however, can enforce uniform standards among all producers and all dealers.

Not the least of the advantages of a minute division of labor[1] is the fact that each individual can avoid the necessity of being expert in many things, and therefore has time to become a specialist in one thing. One of the advantages of standardizing commodities is that the average consumer can save himself the trouble of being an expert buyer or an expert judge of the many things which he has to purchase. If he has confidence not only in the weights and measures but also in the government which standardizes and the seller who uses them, and if he has the same degree of confidence in the alleged quality of the goods offered for sale, he may make his purchases with very little expenditure of time and strength and save his time and strength for his own special work.

The enforcement of contracts and agreements is another way of creating confidence, and, through the creation of confidence, of economizing energy and encouraging production. Where men commonly regard contracts as scraps of paper, and do not solemnly and completely fulfill them, and where law and government fail to compel their literal fulfillment, there would, of course, be great difficulty in working together in productive enterprises.

The exercise of authority. It is clear, therefore, that one very important function of government is to create that state of confidence which results in economy, and to create it, first, by repressing destruction and deception through the police power of the state, second, by standardizing products, and, third, by enforcing contracts. These tasks, which are necessary in the interest of the highest economy, are thrown upon the government because no other agency is in a position to perform them. They call for the exercise of authority, backed up by physical force, and that is a work which can be intrusted to no private agency.

[1] See Chapter X, The Division of Labor.

We need not limit the functions of government, however, to those requiring the exercise of authority, though usually it will be found that the government is best fitted to perform those which require some degree of authority, whereas private individuals and organizations can usually be intrusted with those enterprises which can be carried out wholly on the basis of free contract. This distinction is not always clear, but a little careful study will usually reveal the fact that there is an element of compulsion in those enterprises which the government carries on most successfully. The maintenance of lighthouses will serve as an illustration. If a private company were to maintain lighthouses, its product, light, would be difficult to sell. The light would shine for all who came within its reach, and the shipowner who refused to pay for it would get the same advantage as the one who paid his share. All who get the benefit should be compelled to pay a share of the cost, either in the form of taxation or in some other form. This requires a power of compulsion which the government alone possesses.

Even in the case of the post office, as it is thought best to run it, there is an element of compulsion. Many local post offices are maintained at a loss, since there is not local business enough to pay expenses. Under private management these local offices would be closed, unless the people of the neighborhood would voluntarily pay enough postage to cover expenses, or unless larger communities would voluntarily pay enough surplus to cover the losses on the smaller offices. It is deemed expedient to establish a uniform rate, regardless of differences in the cost of service. Some people are therefore compelled to pay more than the cost of the service which they receive, in order that others may get their service for less than it costs. No one complains of this, but it is apparent that it could not be carried on in this way on the basis of free contract. Some degree of compulsion is necessary in order to compel some people in some localities to pay higher

rates than are necessary, — higher than they would have to pay if they were permitted to patronize private postal carriers. The good of the whole country seems to demand that this be done. The government alone can exercise the necessary authority, since it is sometimes thought best even to compel the people to pay in the form of taxes enough to cover the losses on the postal business.

However, we need not hold to any hard-and-fast definition of the functions of the government. It is sufficient to say that anything is a proper task for the government if there is reasonable ground for believing that the government can do it better and more economically than private enterprise can reasonably be expected to do it. That reasonable ground exists in favor of government enterprise whenever authority or compulsion is necessary to its successful accomplishment. When there is no need whatever for compulsion (that is, when every part of the work, including the selling of the product, can be conducted on the voluntary basis of free contract), the general tendency is to leave the task to private enterprise.

Beneficent uses of power. There is a wide difference, however, between using force to compel a man to do something which he has voluntarily contracted to do and using it to compel him to do something which he has never agreed to do and would prefer not to do. As a matter of observation it will be found that most if not all of the things which the government is able to do well involve some element of compulsion of the latter kind. Public education will serve as an example. Wherever it is a success, there is either compulsory attendance or compulsory payment, or a combination of both. In the lower grades of our public-school system we have both. In the higher grades and in our state colleges and universities we have compulsory payment; that is, the taxing power of the government is used to procure the means for the payment of expenses. Both compulsory attendance upon the lower grades and compulsory support of all grades are beneficent uses of

the power of the government over the individual; but it must be remembered that it *is* the use of power. There is no reason for believing that a government school on a purely voluntary basis would be superior to a private school; that is to say, if both attendance and payment were voluntary on the part of individuals, it is difficult to see how it could be more successfully managed by the government than by some private agency.

That which is true of public education appears to be true of every other enterprise upon which it would be possible for the government to enter. The government has no advantage over a private individual or a voluntary association of individuals except in the use of force or compulsion. That is to say, any enterprise which can be carried on on a purely voluntary and contractual basis, without any use of compulsion except in the enforcement of contracts which are themselves voluntarily entered into, can probably be fully as well managed by private individuals and associations as by the government; but if any degree of compulsion is necessary in order to insure its success, it becomes a fit subject for government enterprise. There is undoubtedly a large field for the beneficent exercise of compulsion. There is also a large field where freedom and voluntary agreements are better than compulsion. If we can locate the limits of the beneficent exercise of force, we shall have located the limits to the beneficent exercise of government enterprise.

Human interests sometimes in conflict and sometimes in harmony. In a previous chapter it was pointed out that human interests are frequently in conflict with one another. They are also frequently in harmony with one another. Where they are in conflict, that is, where one man's interest conflicts with that of someone else, there is likely to be trouble. Only three things can prevent uneconomic, that is to say, either destructive or deceptive, conflict. The first is the voluntary submission of the weaker man through fear. That results in despotism. The second is such moral self-restraint

on the part of one or both as will prevent a quarrel. Willingness to give up not only one's coat but one's cloak also would preserve peace. The third is a strong and effective umpire who will promptly decide the case and enforce his decision upon both parties to the conflict. This umpire is the government.

It will generally be agreed, except by extreme anarchists, that wherever human interests come in conflict, a strong umpire of some kind will be necessary until men are so self-restrained by their morals or their religion as to govern themselves. Without such self-restraint the conflict of interests will result in the wasting of human life and energy by destructive combats, fights, and duels, unless there is a government at hand to settle the difference and send the disputants about their business.

Government control unnecessary where human interests are in harmony. But human interests are sometimes harmonious. When this is the case, the individual who pursues his own interest is also promoting the interest of others. Within this field where interests are in harmony it is true, as Adam Smith said long ago, that we are sometimes led as by an invisible hand to promote the public interest while trying to promote our own.[1] It is to the interest of the farmer to grow good crops; it is likewise to the interest of the public to have him do so. In this and a vast multitude of other cases the individual needs no compulsion to lead him to promote the public good. In all such cases it seems to work better in the long run to leave the individual very much to himself. The wise government will generally keep its hands off.

[1] He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. . . . By directing [his] industry in such a manner as its produce may be of greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. . . . By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it. — "Wealth of Nations," Book IV, Chapter II.

Tendency of government officers to increase their own power and importance. There is, however, a natural tendency in all human beings to wish to magnify their own power and importance. This tendency seems to be peculiarly strong in that kind of person who manages to get elected to public office. Modesty is not the outstanding characteristic of the average candidate who seeks office, though he may feign it pretty well. The more the government undertakes, the greater becomes the power and importance of the officeholder. There is, therefore, a strong tendency on the part of all successful candidates to extend the functions of government. The arguments in favor of this policy as used by the *elected* are sometimes so subtle as to deceive the very elect. They are always made as though in the interest of the people, though they are really in the interest of the officeholding class. It is a means of exalting the position of the vote getter. It therefore behooves the average citizen who has no hope of public office to study very critically all arguments in favoring the extension of the functions of the government.

The incompetent. There is, however, the question of the people who are not competent to pursue intelligently either their own interest or the public interest. The feeble-minded, the insane, and the immature who have no natural guardians must of course have their interests looked after and cared for by the government. With them it is not a question of the conflict or harmony of their interests with those of the public; it is a question of their competence to pursue even their own interests intelligently.

The individual's wisdom is not increased suddenly when he is put into public office. Is anyone really competent to pursue his own interest intelligently? This question is sometimes asked by those who advocate government activity in behalf of all classes of people. This is not a very convincing argument, for the reason that it goes too far. If no one is competent to look after his own interests, how can he possibly

be competent to look after the interests of the rest of mankind? The officeholder is merely a man or a woman like the rest of us. If we are not able to look after ourselves, neither is he or she able to look after himself or herself, much less to look after the rest of us.

Because of such considerations as these the wisdom of mankind has for centuries moved toward the conclusion that government should confine itself mainly to the control of the field where individual interests come in conflict, leaving mature people of sound mind to govern themselves wherever and whenever their interests are harmonious. There are occasional reactionary tendencies toward more government interference, but these are usually encouraged by those whose expertness lies in the direction of vote getting rather than by those whose expertness consists in the power to do the useful and necessary things.

CHAPTER VI

MORALS AND RELIGION

It was suggested in a former chapter that the prosperity of a nation depended more upon the economizing and utilizing of its fund of human energy than upon any other factor, and that in consequence the most destructive forms of waste were those which wasted or dissipated portions of that fund. When a man's energy is going to waste, his life is going to waste, and he becomes a drain upon, rather than an addition to, the national strength. The following outline indicates some of the more familiar ways in which men go to waste:

- MEN WHO GO TO WASTE
  - The idle
    - Involuntarily (the unemployed)
    - Voluntarily (the leisure class)
  - The ineffectively employed
    - Through lack of training
    - Through lack of opportunity
    - Through lack of initiative
  - The harmfully employed
    - Wasting their own energy
      - In vice
      - In dissipation
    - Wasting the energy of other people
      - By crime
      - By fraud
      - By luxury
      - By bad investing
      - By false teaching

For some of these forms of waste, law and government alone can furnish the remedy. Whenever force or compulsion is necessary and, at the same time, effective, government can and should use the force of positive law, supported by penalties. But there are many forms of waste which cannot be

remedied by force or compulsion, at least not without causing greater waste of other kinds. To try to control by law such things as laziness, private vices, luxury, false teaching, and many other wasteful and harmful tendencies would require an intolerable amount of espionage and repression. The waste from this source might easily overbalance the waste from the bad habits which the law was trying to control. In all such cases we must fall back upon morals and religion to induce self-restraint and the voluntary adoption of sound habits.

Can morality be taught? There are two conflicting theories as to the results of moral teaching. One is that such results are generally negligible because moral habits are the result of economic and social surroundings; the other is that man's moral nature may be so developed by teaching and example as to render it proof against bad economic and social conditions, — that these conditions are more likely to be the result than the cause of the moral habits of the people. The truth seems to be found in a combination of these two theories. We are undoubtedly influenced by our surroundings, but we can also by sheer force of character not only resist but even overcome and change our surroundings.

Again, weak characters are more largely controlled by their surroundings than are strong characters. Two men may go under a cold shower bath. One, being in vigorous health, comes out feeling refreshed. To him a cold shower is a favorable rather than an unfavorable condition. The other, being weak to begin with, comes out with a chill. To him it was an unfavorable rather than a favorable condition. Yet it was the same shower bath, with the same temperature etc. If one were studying jellyfish, one might find that they were the sport of such circumstances as the winds, the waves, the tides, and the ocean currents; but if one were studying sharks, one might, with equal certainty, find that they were independent of all such circumstances. Similarly, if one were studying human jellyfish, one might find them and their moral

habits to be the result of their economic and social surroundings; but if one were studying human sharks, one might reach just the opposite conclusion. As a matter of fact, those are the conclusions, in general, which students actually reach who study two different types of people. When we study considerable numbers of the unfortunate people who have not succeeded in life, or who are more or less complete failures, we generally attribute their failures to bad surroundings or unfortunate circumstances. When we study men who have made conspicuous successes, we are likely to attribute their successes to their own sterling qualities. It would be impossible to say whether the circumstances under which the former class grew up were better or worse than those under which the latter class grew up. In fact, many of our greatest men and women came out of the worst conditions.

The unemployed. If we begin with the involuntarily idle, that is, the unemployed, as given in the outline on page 64, we shall find that many of them are the victims of circumstances which they lacked the strength to combat successfully. Frequently the hostile circumstances have been such as no one could stand against. In these cases no moral problem is involved. They are entitled to all the sympathy and aid which society can give them. In other cases it was their own weakness or their own injurious habits which made them unemployable. There is no doubt that better moral and religious teaching would have given them a moral brace and helped them to succeed. At any rate, the fact that they are now idle means that they are going to waste and are a drain upon, rather than a contribution to, the national prosperity, power, and greatness. Anything which can be done for future generations to reduce the number of such unemployed people will be a definite contribution to the strength of the nation. More moral vigor, sounder habits, and better training are apparently needed for our economic prosperity, as well as for purely moral or religious reasons.

The leisure class. When we come to deal with the voluntarily idle, that is, with the leisure class, we are on more certain ground. It is in no sense their misfortune, it is their fault, that they are idle. The fact that they are voluntarily rather than involuntarily idle implies that they could do something useful if they chose, but they do not choose to do so. It is not opportunity which they need; it is moral regeneration.

We must be careful, however, not to confuse the person who does not have to earn his living with the person who is idle. Many persons of independent means are doing work of the very highest utility to the nation and to the world. Scientific investigation, experimentation, and invention, historical and literary study, agricultural and mechanical demonstration, political reform, and philanthropy, have all been promoted by men and women who could afford to give their time to such things. The leisure class, properly so called, includes only those who do little or nothing that is useful or productive, but give themselves over to mere self-enjoyment or self-cultivation. Self-cultivation as preparation for useful work is itself, of course, useful; but without some useful object in view, that is, without a view to making one's self a contributor to the national prosperity and well-being, it is useless. The person who spends his time in this kind of self-cultivation is going to waste as truly as though he were spending his time in eating, drinking, and acquiring adipose tissue, gout, or diabetes.

Whoever belongs to the leisure class as thus defined is a drain upon the wealth and prosperity of the nation. The nation is better off every time such a person leaves the world. Since he does nothing useful, nothing is lost when he ceases to exist. When he ceases consuming, his food and clothing at least are saved. His wealth, of course, remains behind even after he is gone. He came into the world naked, and when he leaves the world he takes nothing with him. The more such people there are in the nation in proportion to the

workers the worse it is for the nation in the long run. The fewer such people there are, that is, the larger the proportion of workers, the better off the nation will be in the long run. The whole nation has to be supported by the labor of those who work. If all the people work, the task is lightened, or else the people live better. If only a part of them work, the burden upon the workers is either heavier or else there is less produced and consequently less wealth.

Do idle consumers make a market for producers? It is sometimes argued, however, that a large number of consumers who are not themselves producers is necessary to make a market for the producers. An appearance of reasonableness is given to this argument by taking the case of a single product, say potatoes, though any other product would do equally well. It is undoubtedly a good thing for the potato growers to have a large number of consumers of potatoes who are not themselves growers of potatoes, provided the consumers have something to give in exchange for potatoes. If the would-be consumers of potatoes do not have something to give in exchange, the growers will gain nothing from them. The more the consumers have which can be given in exchange, the more profitable it is likely to be for the potato growers. If the consumers of potatoes are living on accumulated wealth, they will have less to give in exchange than they would have if, in addition to their accumulated wealth, they were also producing or earning something. The more workers there are in other productive fields besides potato growing, the more other things there will be to be given in exchange for potatoes. This is a statement which can be repeated with respect to each and every industry or occupation, which merely brings us back to the general statement that the more workers and the fewer idlers there are in any nation, the more abundant will goods of all kinds become, and the more rapidly will the nation advance in prosperity and power. Overproduction of everything is an impossibility.

Some are willing to grant, however, that it would be better economically if everyone would work than it would be if some wasted their time in idleness. After admitting this, it will be asked, nevertheless, Has not a man a right to remain idle if he has accumulated enough to support himself without further work? Assuming that he has earned his accumulation and has not secured it by inheriting it, by marrying it, or by a fortunate speculation in land, there is something to be said for this contention. But he who does less well than he can, does ill. One who is still capable of doing useful work, and chooses not to do it, is certainly doing less well for his country than he might, even though he did well when he accumulated wealth.

Should men be allowed to accumulate wealth? But why rely upon morals and religion to prevent this form of waste or ill-doing? Why not prevent men from living in idleness by forbidding them to accumulate wealth or by taking it away from them by law if they do so? Here is a dilemma which no kind of compulsion can remove. If men are not allowed to accumulate wealth, they will then be encouraged to consume their incomes as they go along. Wasteful or luxurious consumption is quite as wasteful as idleness. Here, then, is the dilemma. If men whose incomes are larger than is necessary to support them and their families in that degree of comfort which will maintain their efficiency at its maximum are not allowed to accumulate, they will consume more than is necessary; that is, they will consume wastefully. If they are allowed to accumulate a part of their incomes, some of them will be able to accumulate so much that either they or their children may live without work. It is deemed better and more economical to allow them to accumulate, and then appeal to them on moral and religious grounds not to waste their lives in idleness or useless self-amusement, but to use both their time and their wealth productively, than to take away their accumulations and thus encourage them to consume wastefully.

Let us assume, by way of illustration, that two men, A and B, have equal incomes, and that their incomes are more than sufficient to maintain them and their families in efficient comfort. A consumes his entire income and never accumulates anything, while B consumes only a part of his income, investing the remainder in productive enterprises of various kinds. The overconsumption of A and his family accomplishes nothing. What they consume over and above that which is necessary for efficient comfort is wasted as far as the rest of the country is concerned, and might just as well have been burned or thrown into the sea if that would have given them any amusement or satisfaction. B's surplus, however, has gone into the expansion of industries and the increase of the productive power of the country. Up to this point B has done much better than A. Now let us assume that after a period of years B decides that he has worked long enough, and that he will spend the rest of his life in sheer idleness or self-amusement. A, having accumulated nothing, cannot retire, but is compelled to go on working as long as he is able. From this point on, A is doing better than B. During their whole lives it is difficult to say which does the better, but the odds are slightly in favor of B. If, however, B can be persuaded not to remain idle, but to continue doing something useful, even if he does give up his earlier business, the advantage is decidedly with B.

The kind of talent that goes to waste. There is one aspect of the problem of the leisure class which makes it especially important. That is the quality of the people of whom it is made up. If this class were made up of the ignorant, the weak, and the incompetent, the loss would not be so great. That part of the leisure class which is commonly referred to as the tramp, or hobo, class may be thus described. There is a certain amount of waste involved here; but as long as they do not become a positive nuisance by their lawlessness and vagrancy, the waste is not so very great. Even if they

were all at work, they would not be worth much; consequently the mere fact that they are idle does not of itself occasion much loss. Their criminality is of course another matter.

That which is commonly known as the leisure class, however, differs from the vagrant class in at least one important particular. It is made up in the main of men and women of more than average native capacity. The man, for example, who has been able to accumulate a fortune out of his own earnings, or by his own business foresight and capacity, is pretty certain to be a man of considerable productive capacity. If he chooses to use that capacity in productive enterprises, he can add materially to the wealth and prosperity of the whole community. If he chooses not to use it, the loss to the community is correspondingly great. These considerations present a problem of the very greatest magnitude. The greater the productive capacity of the individual, the more desirable it is, from the standpoint of national prosperity, that he shall use that capacity. On the other hand, the greater his capacity, the more likely he is to accumulate a fortune; and, consequently, if he is not controlled by high moral and religious motives, the more likely he is to retire from business and live in idleness. If he were a man of low productive capacity, it would not be so great a loss if he were to retire; but such a man will seldom be able to accumulate a sufficient fortune to be able to retire.

Lest there should remain some doubt as to whether it is a loss to society when a man of great capacity for usefulness stops working, let us consider the case of a great surgeon. The author has such a man in mind. He is so skillful and so capable that his services are sought by large numbers of people. He could have retired years ago and lived in elegant leisure on his accumulated wealth. Had he chosen to do so, some hundreds of people would have been deprived of the benefit of his skill. Had he been a man of mediocre ability, it would not have mattered much; but a man of mediocre

ability could not have accumulated enough to be able to stop working. The fact that this brilliant surgeon is so much needed is the very thing which would have made it possible, if he had been a man of perverted morals, to stop working; but that is the very reason why he should not stop. There seems to be no solution of the problem, except sound moral standards which will keep such men busy. If they lack such sound moral standards, even compulsion would not call forth their best efforts. That which has been said of our great surgeon may be repeated of any great man in any useful occupation.

The ineffectively employed. By the ineffectively employed are meant all those who, through lack of training, lack of opportunity, or sheer lack of initiative, are now doing less useful work than they might have been doing had they had the proper training, opportunity, and initiative. These include men who are doing unskilled work who might have been doing skilled work, men doing skilled manual work who might have been doing expert mental work, or men doing routine mental work who might have been doing work requiring inventiveness, originality, and enterprise. This is primarily an educational rather than a moral problem. The question of morals and religion enters into the problem to a certain extent, however. No matter how many and excellent are the schools and other educational opportunities, unless students are inspired with a high purpose to make use of the opportunities which are furnished, these opportunties alone will not solve the problem. Large numbers will remain unskilled, ignorant, and in a low state of productivity. The individual who remains less useful to the nation than he might be is not only doing himself an injury but is also injuring the nation. He who does less well than he can does ill.

Vice as waste of energy. One very good definition of a vice is that it is a habit which wastes or dissipates human energy. It should, perhaps, be distinguished from crime in that vice wastes one's own energy, whereas crime wastes not only

one's own but that of other people besides. No community which wastes in either way a large proportion of its energy can hope to prosper as much as a community which does not. The use of drugs which merely produce excitation or irritation of the nerves, overindulgence in any kind of excitement beyond what is necessary for recreation, or even excessive devotion to sport, may become a vice in this sense as truly as excessive eating or drinking. Crime and fraud seem to call for the use of the compulsory power of the state rather than for moral suasion.

Luxury. Luxurious consumption can be controlled by authority and compulsion to a certain extent, but not wholly; that is to say, there are certain clear and undebatable forms of luxurious consumption, such as the use of alcohol and opium, which the government can safely prohibit, but much must be left to the discretion of the individual. There is a time-worn argument to the effect that luxurious expenditure gives employment to labor and thus benefits the poor. This is similar in principle to the theory that the destruction of property, say the burning of a building or the breaking of a window, gives employment to labor. The stupidity of this argument was never more clearly shown than by Frédéric Bastiat in his famous work entitled "Sophisms of Political Economy." He pictures a shopkeeper who is about to chastise a scapegrace son who has broken a pane of glass. Some sympathetic bystanders argue that the boy is really a public benefactor in that he has made work for the glazier, who will then have six francs, the cost of a new pane, to spend, and that the butcher, the baker, and others will share in the benefit.

"Assuming that it becomes necessary to spend six francs in repairing the damage, if you mean to say that the accident brings in six francs to the glazier, and to that extent encourages his trade, I grant it fairly and frankly, and admit that you reason justly.

"The glazier arrives, does his work, pockets his money, rubs his hands, and blesses the scapegrace son. That is what we see.

"But if, by way of deduction, you come to conclude, as is too often done, that it is a good thing to break windows, that it makes money circulate, and

that encouragement to trade in general is the result, I am obliged to cry, halt! Your theory stops at what we see, and takes no account of what we don't see.

"We don't see that since our burgess has been obliged to spend his six francs on one thing, he can no longer spend them on another.

"We don't see that if he had not this pane to replace, he would have replaced, for example, his shoes, which are down at the heels; or have placed a new book on his shelf. In short, he would have employed his six francs in a way in which he cannot employ them now. Let us see then how the account stands with trade in general. The pane being broken, the glazier's trade is benefited to the extent of six francs. That is what we see.

"If the pane had not been broken, the shoemaker's or some other trade would have been encouraged to the extent of six francs. That is what we don't see. And if we take into account what we don't see, which is a negative fact, as well as what we do see, which is a positive fact, we shall discover that trade in general, or the aggregate of national industry, has no interest, one way or the other, whether windows are broken or not.

"Let us see, again, how the account stands with Jacques Bonhomme. On the last hypothesis, that of the pane being broken, he spends six francs, and gets neither more nor less than he had before, namely, the use and enjoyment of a pane of glass. On the other hypothesis, namely, that the accident had not happened, he would have expended six francs on shoes, and would have had the enjoyment both of the shoes and the pane of glass.

"Now as the good burgess, Jacques Bonhomme, constitutes a fraction of society at large, we are forced to conclude that society, taken in the aggregate, and after all accounts of labor and enjoyment have been squared, has lost the value of the pane which has been broken."

In one respect the argument against luxury is less strong than that against the breaking of a pane of glass, but in another respect it is stronger. When the shopkeeper in the story has to spend six francs on a pane of glass, he gets no satisfaction out of it and deprives himself of a pair of shoes which he needs. Had he spent the six francs on a luxury, he would presumably have got some enjoyment out of it, even though it had been followed by indigestion or a headache. To this extent it would have been better to have a luxury costing six francs than to have been compelled, through

the carelessness of an overexuberant son, to spend that amount on a pane of glass. On the other hand, when one compares the expenditure of money for a luxury with the investment of money in tools or other instruments of production, one does not get so favorable a picture. When one spends money for a luxury, one does, it is true, set labor to work, in a luxury-producing industry; but if one were to spend the same amount of money for tools, one would set an equal quantity of labor to work in a tool-producing industry. It is at least as desirable to give work to toolmakers as to luxury producers. In fact, it is much more desirable. The more men there are working in tool-making industries, the better supplied with tools the nation will be. The way they are set to work is by the purchase of tools; that is, by the investment of money in tools.

If you have a dollar to spend over and above what is necessary to maintain you in efficient comfort, you have your choice of spending it on some unnecessary article of consumption or of investing it in some productive enterprise. Whether it be a dollar or a hundred thousand dollars, the principle is the same. If you decide to invest your money in a productive enterprise, you tend, to the extent of your investment, to set labor to work erecting the buildings or manufacturing the machines which will be needed in production. The more people there are who are investing in this way, and the more they invest, the more productive enterprises we shall have. This not only sets labor to work preparing the buildings and machinery, but will continue to employ labor to run the enterprises. Again, as a result of this, more goods are produced and the nation is better fed, clothed, and supplied with all necessaries. It is therefore very much better that there should be a great many people investing their money productively than that they should merely spend their money for extravagant luxuries which are of no use to anyone except themselves. He who does less well with his money than he might do is

doing badly. He therefore does badly who spends his money luxuriously when he might invest it productively.

Emulation in extravagance. Nothing could contribute more to the general prosperity and well-being of the nation than such moral habits as would discourage extravagant consumption and encourage thrift and wise investments in all sorts of productive enterprises. A particularly vicious and wasteful factor in many a social group is competition or emulation in extravagance. What Professor Thorstein Veblen[1] has called "conspicuous waste" is sometimes required of everyone with social ambitions. Of all forms of competition, competitive consumption is the most pernicious and wasteful. When men and women try to advertise their solvency by ostentatious wastefulness, there develops a real competition to see who can advertise most effectively.

This is part of a very widespread tendency. Certain Chinese mandarins of an older day used to allow their finger nails to grow to inordinate lengths as a visible sign that they did not have to work. The binding of the feet of women served much the same purpose. Where work is not regarded as respectable, some visible sign of respectability is generally sought. Sometimes these customs are copied even by those who do have to work, as in the case of high-heeled shoes and of long trains.

Emulation in the waste of physical energy. It is not only the possession of plenty of money which is thus vulgarly advertised. The possession of abounding physical energy is also advertised by the practice of conspicuous vices which tend to dissipate energy. The young man who can dissipate freely can thus advertise to the world that he has health and energy to spare, just as he can advertise to the world that he has money to spare when he spends it extravagantly. When there is no sense of moral values and no sober self-restraint, the possession of abundant health and the possession of abundant

[1] The Theory of the Leisure Class.

money lead to equally demoralizing vices. The poor are safeguarded by their poverty from the extravagant use of money, but they are quite as likely to indulge in the extravagant uses of vitality as are the rich. If there be any difference, the dissipation of physical energy is worse than the dissipation of money.

The teacher, the preacher, or the moral leader who can persuade the people to abandon such habits and use their surplus money and their surplus energy productively rather than wastefully will deserve to stand among the greatest of statesmen and nation builders. Nations are built by the wise expenditure of human energy. The less it is wasted, and the more it is used up in production or useful work, the greater the progress of the nation.

We have chosen to discuss, in this chapter, a theme which is not ordinarily treated in works on economics. It has generally been assumed that economics had nothing to do with morals and religion. With certain sentimental and conventional aspects of these human interests, perhaps the economist has nothing to do. But in so far as they are factors, or may become factors, in national wealth, prosperity, and power, nothing can be of more interest to the economist. Even religion, if it stimulates the productive virtues and discourages the vices which waste and dissipate human energy, may become one of the greatest factors in the building of a great, prosperous, and powerful nation. The nation which possesses such a religion will eventually outgrow in all these particulars the nation which does not, or which possesses a religion which enervates, which lulls to sleep, or which represses the productive virtues.[1]

[1] For a fuller discussion of this topic, see the author's book entitled "The Religion Worth Having." Houghton Mifflin Company, Boston, 1912.

CHAPTER VII

THE GEOGRAPHICAL SITUATION

The human factor is the most important factor in national prosperity. Nevertheless, the natural situation is a factor which must be taken into consideration. However gifted and courageous a race may be, it will find it easier to expand and become prosperous, powerful, and great in a favorable than in an unfavorable environment.

Importance of environment. But what is a favorable environment? It is easy to overemphasize the bodily comfort of living in a warm as opposed to a hot or a cold climate, and to ignore the bracing effects of changeable weather. It is also easy to overemphasize the tremendous productivity of certain tropical regions and to forget that they produce the enemies as well as the friends of man in great profusion. It is equally easy to go too far in the opposite direction and to hold that hard conditions, such as a harsh climate and a sterile soil, are best for man's development. If hard conditions are all that men need, the Eskimos of the Far North are peculiarly blest.

If we take everything into consideration, it is probable that the temperate zones are most favorable to man's development as well as to his prosperity. He has here fewer unconquerable enemies than in the tropics or in the frigid zones. He finds a wider variety of useful materials, such as grass, timber, and minerals, and he finds them in greater abundance here than elsewhere. Here the advantages to be gained by work are more obvious and more easily comprehended by the average intellect than anywhere else. The intelligence required to see the advantage of building shelters, making clothing, and kindling fires, especially in a place where, along with the cold

weather, there is an abundance of suitable material, is not very great. It requires much more scientific knowledge to enable men to guard against the hookworm and the various harmful bacteria which infest the tropics. These, together with venomous insects and reptiles, not to mention the larger beasts of prey, imperil the lives of the dwellers in the tropics quite as much as our cold winters imperil the lives of dwellers in these northern latitudes.

Northern-grown crops are generally best. It is a fact of observation, however we may account for it, that many of our farm crops reach their highest perfection very near the northern limits of the areas within which they can be grown without injury from frost. The cotton belt of this country, though confined to the southern states, is in reality near the northern limit for cotton. Our corn belt is likewise near the northern limit for corn. The oranges of California and Florida are likewise grown near the line where frost will destroy the crop. The potato and the sugar beet do better either in high altitudes or high latitudes, where the summers are barely warm enough and the seasons barely long enough to mature the crop. One explanation of this general rule is that by migrating northward a plant escapes many of its ancient and hereditary enemies. When seed corn is saved, dried, and protected during the winter, and special care given it during the growing season, it can grow farther north than would be possible if it had to shift for itself. Its natural enemies in its original habitat, not having man's help, cannot live over winter or mature between frosts in our corn belt. Therefore the corn plant escapes some of its worst enemies. The same is true of the cotton plant (though some of its ancient enemies seem to be following it northward) and also of other plants which seem to flourish under cultivation in latitudes where they could not survive without cultivation. Similarly, when man learns to keep himself warm by building houses, manufacturing clothing, and making fires, he can live in latitudes which enable him to

escape some of his ancient and hereditary enemies, such as the hookworm and the germs of yellow fever, malaria, etc. The northern limit of his best development, however, must coincide with the northern limits of the production of abundant means of satisfying his multifarious desires. Another explanation is that during the growing season for plants, that is, during the summer, the days are longer in high than in low latitudes. This gives plants more light while they are growing. The proportion of sugar in sugar beets seems to depend upon the amount of sunlight which they get while they are growing.

Buckle's generalizations. In his famous work, "The History of Civilization in England," Henry Thomas Buckle makes a great deal of several other factors in the geographical situation. These he groups under four heads, namely, climate, food, soil, and the general aspect of nature. He goes to the extreme of attributing to these factors a controlling influence not only on the economic prosperity of the people but even on their intellectual, moral, and religious development as well. Without following him to these extremes, we may profitably give attention to some of his observations regarding the influence exercised by these factors on the industrial development of a people. No one is likely to deny that the presence of cheap coal has had a great deal to do with the economic development of Europe and America, or that the former abundance of timber in this country had a great deal to do with the kind of houses we built and are still building. A shingled roof, for example, is unknown except in countries where timber has been abundant.

That ancient civilizations arose in regions where labor applied to land was highly productive is a commonplace in history. The fertile river valleys of Egypt, Mesopotamia, India, and China supported civilizations when our European ancestors were still savages. Here food was so abundant that men had time to do other things besides satisfying their immediate daily needs; or, rather, a part of the population could produce food enough to support the rest while the latter gave

their time to other things. Art, architecture, philosophy, religion, and government could therefore flourish. The civilizations which have since grown up in latitudes farther north may not have exceeded those earlier civilizations in physical magnificence, but they have exceeded them in all that makes for the comfort and well-being of the average man.

On the other hand, the overpowering influence of the terrific productiveness of nature in certain tropical regions is sufficient to discourage man's enterprise. Kipling's story entitled "Letting in the Jungle" [1] gives a vivid picture of the way in which the jungle struggles to reassert itself, — to flow back, as it were, upon a cleared area, and overwhelm it as with a flood of rank vegetation. Concerning India, Buckle writes:

> Besides the dangers incidental to tropical climates, there are those noble mountains which seem to touch the sky, and from whose sides are discharged mighty rivers which no art can divert from their course and which no bridge has ever been able to span. There, too, are impassable forests, whole countries lined with interminable jungle, and beyond them, again, dreary and boundless deserts, — all teaching man his own feebleness and his inability to cope with natural forces. Without, and on either side, there are great seas, ravaged by tempests far more destructive than any known in Europe, and of such violence that it is impossible to guard against their effects. And as if in those regions everything combined to cramp the activity of man, the whole line of coast from the mouth of the Ganges to the extreme south of the peninsula does not contain a single safe and capacious harbor, not one port that affords a refuge which is perhaps more necessary there than in any other part of the world.

In contrast to India, Buckle points to Greece as a country where everything invites man to dominate. There is nothing to terrify or overwhelm him. Everything tends to exalt the dignity of man, while in India everything tends to depress it.

The zone of the founders of religion. Peschel, in his "Races of Man" quotes from an old Arabian geographer who divided the earth into zones, one of which, that between 19° and 33° 49′ north latitude, was the zone of the founders of religion.

[1] In "The Second Jungle Book."

He points out that in this zone were born all the great founders of religion and all the philosophers and scholars, himself included. Zoroaster, Moses, Buddha, Christ, and Mohammed were all born in that zone. Regarding the influence of the desert upon the mind, Peschel writes:

> All who have been in the desert extol its beneficent influence on the health and spirits. Aloys Sprenger declares that the air of the desert invigorated him more than that of the high Alps or of the Himalayas. . . . The desert has impressed the Arabs with their remarkable historical character. In the boundless plains the imagination which guides the youth of men is filled with images quite different from those suggested by forest country. The thoughts thus acquired are noble rather than numerous. . . . Every traveler who has crossed the deserts of Arabia and Asia Minor speaks enthusiastically of their beauties. All praise their atmosphere and brightness and tell of a feeling of invigoration and a perceptible increase of intellectual elasticity; hence, between the arched heavens and the unbounded expanse of plain, a monotheistic frame of mind necessarily steals upon the children of the desert.

Professor Ellsworth Huntington,[1] on the other hand, finds greater stimulus to mental activity in a changeable climate with frequent variations of temperature.

The geographical advantages of the United States. Coming to our own country, we have a combination of most of the geographical factors mentioned by Buckle and others. We have the broken landscape, low mountain ranges, and small rivers of the Atlantic seaboard. The great fertile valley of the Mississippi and its tributaries, the vast plains of the great West, the semidesert conditions of the Southwest, the towering mountain ranges of the Rockies and the Sierras, and the mild climate and gentle slopes of the Pacific coast. If the mind of man is strongly influenced by its geographical surroundings, we have an opportunity of developing a many-sided and variegated civilization.

[1] The Pulse of Asia. See also "Climatic Changes and Agricultural Exhaustion as Elements in the Fall of Rome," *Quarterly Journal of Economics*, February, 1917.

The eastern half of the United States, being virtually surrounded on three sides by water, like the greater part of Europe, is assured of an adequate quantity of moisture. The western half is more or less deficient in moisture, except the extreme northwest corner and certain high mountain altitudes. These arid and semiarid regions, where the streams do not supply water enough for irrigation, may, in places where conditions are favorable, be made to grow crops under methods known as dry farming. The rest will probably be a permanent grazing country. Even our irrigable land, while but a fraction of the total, amounts to a small empire in itself.

A broad strip running from the Atlantic seaboard to the hundredth meridian, and a little north of the middle, comprises the great grain, hay, and livestock region. Another broad strip, lying south of this, is the cotton belt. Along our northern border from Maine to northern New York is a lumber, dairy, and potato region, and a natural summer playground for the city people. A continuation of this strip, including the northern halves of Michigan, Wisconsin, and Minnesota, is an undeveloped region, formerly covered with forest but now largely cut over. Most of it is excellent land for potatoes and small grains, and is capable of feeding a vast population. Another undeveloped strip along the Gulf coast from Florida to Texas, just south of the cotton belt, is also largely cut-over timber land. Much of this is ideal land for fruit and truck farming and the growing of such great food crops as sweet potatoes and peanuts. Whenever the demand for food is such as to insure a remunerative price for potatoes, both white and sweet, almost unimaginable quantities can be grown along our northern and southern borders without interfering with the growing of corn, wheat, or cotton in the belts which are especially adapted to these great crops. So far as starchy food is concerned, we have opportunities for producing incalculable quantities. Animal products also can be produced in quantities sufficient for a population very much

greater than the present, though it is easy for unthinking people greatly to exaggerate the possibilities in this direction.

The Mississippi Valley, that is, the whole interior basin of the country, is one of the most productive regions in the entire world. In fact, it is doubtful if any region of equal area can be found anywhere on the globe which contains so great a variety and abundance of natural riches, both on the surface and beneath the surface. This region includes the greater part of our cotton belt, and we prŏduce nearly three fourths of the cotton of the world. It includes all of what is known as our corn belt; that is, the region where corn is the main crop, though corn is grown in every state in the Union. Corn is not only our most valuable crop but our most valuable single product of any kind or description; we also grow nearly three fourths of the world's production of this, the most magnificent of all crops. In this region are also the great spring-wheat areas of Minnesota and the Dakotas and the winter-wheat area extending from Ohio to the Great Plains, reaching its greatest density in Kansas and Nebraska. While we produce on the average only between a fourth and a third of the world's total wheat crop, we yet produce more than any other single country, Russia being the only close competitor. Aside from these major crops, this region is also rich in a number of minor crops and grows practically everything which will grow outside the tropics.

Farm machinery. The reasons for this great productivity are first, the vast area; second, the uniform fertility of the soil; third, the uniformly level contour, making farm operations relatively easy and inexpensive; fourth, the uniformly favorable climate; and, fifth, the general use of farm machinery. There is probably no single area in the world where so much and such efficient farm machinery is used in order to supplement the labor of men.

In addition to the natural ingenuity of our people, the general smoothness of the land and the favorableness of the climate must be held to account for the use of farm machinery.

The summers (especially the late summer months) in this region are relatively dry. This has had an important effect in encouraging the use of harvesting and hay-making machinery. In some of the countries of northwestern Europe, where clear, dry weather is rare, the curing of hay and the drying of harvested grain are more difficult problems than with us. The quick curing and rapid methods of harvesting and storing which are familiar to us are there impossible.

Mineral wealth. Beneath the soil in this region lies a wealth of minerals. Bituminous coal underlies a great deal of it from western Pennsylvania to Wyoming. Petroleum and natural gas abound in the same region, and fields extend southward to the Gulf. Some of the richest and most extensive beds of iron in the world lie in northern Michigan and Minnesota.

Throughout this region transportation is easy. The Great Lakes furnish cheap water transportation, as do (to a less extent) the Mississippi and its larger tributaries. But its greatest advantage for transportation is its wide extent and its level contour, making railroad building and operation relatively inexpensive.

Bordering on this vast region, which must more and more become the real home and habitat of the American people, are the Atlantic and Pacific seaboards, adding other mineral wealth, forests, water power, fisheries, and opportunities for foreign trade to the wealth-producing power of the whole. In view of all these natural riches, it is obvious that if the American people do not prosper and grow in all the arts of civilization, it will be their own fault. Nature has done a great deal for us. It remains to be seen what we can do for ourselves.

Reasons for modesty as well as for pride. A great railroad president used to make it a rule never to promote anyone who was satisfied with his own work. The fact that he was satisfied argued that the person in question did not have very high standards of excellence, if he could be satisfied with anything that he had done. The people of America may well take

warning from the observation of this wise man of business. If we are satisfied with what we have done, it means that we have no very high standards of national life and efficiency, and that our progress is at an end. Before we take too much credit for our national wealth and prosperity, we should ask ourselves to what extent we did it, and to what extent nature did it for us. It will be a wholesome exercise for us to write down a list of achievements in which we have led the world, and then to ascertain to what extent these are due to our own intelligence, energy, courage, and devotion to ideals, and to what extent to our favorable geographical situation and the richness of our resources.

We produce more iron and steel, more corn, cotton, and wheat, than any other country. There are excellent geographical reasons why we should. Mechanical inventions and the breeding of the trotting horse are among the few activities in which we have surpassed other people without the special aid of superior physical advantages.

PART TWO

PRODUCTION

Which has to do with the adding of utility to material things, that is, with changing the forms of matter, with changing its location, and with preserving it over longer or shorter periods of time, all for the purpose of making it more useful, or of adding utility to it

SECTION A

THE PRODUCTIVE FORCES

The forces by means of which we increase the number of desirable things, or increase the desirability of things

CHAPTER VIII

THE PRIMARY FACTORS OF PRODUCTION

However strongly we believe that this is the best possible world, and however clearly we see that a bounteous nature has provided for the satisfaction of many of our needs, we cannot help acknowledging that, at any time and in any place where we happen to be, some desirable things are scarce, some undesirable things are abundant, and some things otherwise desirable are so superabundant as to become undesirable. That being the case, the obvious thing to do seems to be to set about improving the situation, increasing the quantity of those desirable things which are scarce, and decreasing the quantity of those things which are too abundant for our well-being or comfort.

The rearrangement of matter. Matter itself cannot, of course, be either increased or diminished in quantity. It can be rearranged in such ways as to become more usable or less harmful. This rearrangement may take on various forms. All the elements which are now in a loaf of bread were formerly in the soil, the water, and the atmosphere. In those forms they were of no use to man. They have been rearranged and assembled, — their form has been changed. This is sometimes called form-utility. The wheat from which the flour was made, and the flour from which the bread was made, had to be transported from places where there was a superabundance to a place where there was a scarcity, in order that they might become usable. This is sometimes called place-utility. Some goods have to be stored and preserved. At one time they are so abundant as to be unusable. At another time, unless they were preserved, they would be so scarce as to cause

hardship or even famine. Their utility is increased by storing and preserving them. This is sometimes called time-utility.

A keen observer has remarked that men are engaged in the simple work of moving things from one place to another. Whether one is writing with a pen, putting chemicals into a test tube, or irrigating dry land, all that men literally do is to move materials. Of course, there are methods and purposes in all this moving of things. It is method and purpose which the mind sees back of that which the eye sees, and which the mind performs beyond that which the muscles perform. One of the wonderful things about man's activity is the vast results that follow a very slight rearrangement of materials. By stirring the soil and placing seeds in a certain relation to it the forces which produce plant growth are set to work supplying our needs. By rearranging a few stones and clods a stream may be diverted and made to water barren fields until they blossom and bear fruit; or the stream may be made to turn a wheel and drive machinery which can accomplish tasks far too great for human muscles. By taking advantage of his knowledge man can, by these slight rearrangements of matter, harness natural forces and compel them to serve his purpose.

Discriminating between friends and enemies. The general purpose of all this work is to increase the objects of desire and decrease the objects of repugnance. The process of increasing the objects of desire is called production, and that of decreasing the objects of repugnance is called destruction. Frequently these two processes are so closely related as to make them difficult to separate. In order to increase the number of desirable plants, we must destroy their rivals, the weeds, as well as the pests which feed upon them. Out of the various forms of animal and plant life which would live in our neighborhood, we choose the more desirable and make it easy for them to live and multiply, and make it hard for the less desirable to survive. Man merely holds the balance of power and

uses his limited physical strength and his superior intellect in giving the advantage to his friends in the subhuman world and in placing his enemies at a disadvantage. In the field of mechanics, likewise, by moving a vast number of pieces of matter, thereby bringing natural forces into play, he assembles powerful engines. Then, as in the case of a locomotive engineer, by a very moderate pressure he moves a lever which in turn sets powerful forces to work serving his purpose. Other engines, equally powerful and controlled with equal ease, set powerful forces to work destroying his enemies, both human and subhuman.

One of the labors of Hercules, it will be remembered, was to clean the Augean stables. According to the legend, three thousand oxen had been stabled there for thirty years, and the stalls had never been cleaned. Being required to clean these stables in one day, he turned the rivers Alpheus and Peneus through them, and thus accomplished what his monstrous strength would not have enabled him to do directly. Very commonplace men accomplish greater engineering feats than that nowadays.

Writers who have wished to impress their readers with the vastness of some political or social revolution have sometimes adopted the device of picturing someone as falling, just before the revolution, into a Rip Van Winkle sleep and awaking just after the revolution into a new world. His perplexity in trying to understand his new surroundings is not only amusing but usually very instructive. We need not adopt the device of whisking someone through an interval of time in order to impress him with the change which man has wrought in his material surroundings. It is only necessary to imagine a philosophical savage transported over a few hundred miles of space and set down in a modern industrial center. Let us imagine him on a busy corner of some great city, where pavements, street-car tracks, curbstones, and sidewalks have replaced the native turf ; where, instead of trees, tall buildings of steel and

concrete rise hundreds of feet into the air, and the narrow strip of blue between is obscured by elevated railroads, trolley wires, poles, and other obstacles; while the ground underneath is honeycombed with cellars and sub-cellars, subways and sub-subways, and a network of sewers, conduits, and other subterranean passages. In trying to picture to ourselves the surprise and perplexity of our philosophical savage, we may arrive at some conception of the magnitude of the change which man has wrought in his natural environment.

Man, nature, and tools. The two original factors in this work are man and nature, — nature presenting the material to be worked upon and also certain powerful forces to aid man in his work, and man furnishing the knowledge, the ingenuity, the foresight, the patience, and also a certain amount of muscular or physical power to work upon the material which nature furnishes. Both the raw material and the natural forces, in their elemental state, are commonly included under the name *land*. Not only the soil fertility and the minerals, but also the sunlight and sun heat, the rain and the atmosphere, are commonly regarded as the appurtenances of land. The most important quality of land is that of extension. Whoever controls a portion of the earth's surface owns thereby the air which lies above it, also a certain fraction of the sun's rays and a certain portion of the rainfall, together with the soil and the subsoil immediately below the surface and the moisture beneath. Under some systems of law he also owns the minerals which are found anywhere beneath the surface. In fact, ownership of land, under these systems, extends from the center of the earth to the uttermost heights above the surface. However, we are not, at this point in our discussion, so much interested in what is included in the ownership of land as in what is included under land as a factor in production. It may be said to include all the materials furnished by nature for man to work upon.

While man and nature are the original and primary factors in the problem, a very little study will show anyone that man

would not accomplish very much if he relied solely upon his own strength and did not make use of tools to add to the power and effectiveness of his efforts. He can strike a harder blow with a stone held in the hand than with the hand alone, making use of the hardness of the stone and the momentum which goes with its weight. When he fits a handle to the stone he can strike a still harder blow. When the stone is provided with a cutting edge, it becomes still more effective for certain purposes. By making use of such simple mechanical devices as the lever and the inclined plane, he can move bodies far too large for the meager strength of his unaided muscles. It is a long road, but a fairly direct one, from these simple beginnings to the mighty engines and complicated machines of the present day. So important have tools become in the economy of a modern nation that they are generally treated as a third factor of production, along with man and nature. While man and nature are the original and primary factors, and tools are the derived and secondary factors, they have become, in spite of that fact, almost as important as either of the original factors.

Labor. The human factor is usually named labor in economic discussions, but it must be remembered that labor includes the work of the mind as well as of the body. As a matter of fact, *labor* was originally used in a much narrower sense. Management, or direction, was assumed to be the real thing, and discussions of the problems of production assumed the manager's point of view. What were his problems? First, of course, was the problem of supplying himself with the three factors of production, — labor, land, and capital, or tools. Since tools were purchasable, a supply of purchasing power was all that was necessary in order to get tools. Hence, purchasing power came to be the meaning of capital. With a supply of these three factors, labor, land, and capital, he was prepared to begin the work of organizing a productive enterprise. He needed good labor as well as good land and good tools. An adequate supply of labor, land, and capital of good

quality has generally been regarded, therefore, as the primary factors in national prosperity. But it is quite as important, if not more important, that there be capable management. From the laborer's point of view, what he wants is more and better managers to hire and direct him, to bid against one another for his labor, not more and better laborers to compete with himself. This point of view is quite as important as that of the manager, who does not feel the need of more and better managers to compete with himself, but rather for more and better laborers to work under his direction.

There are several reasons why it might be better to continue using the terms *man*, *nature*, and *tools*, as we have done thus far in this chapter, rather than *labor*, *land*, and *capital*; but, on the whole, it is probably better to follow the custom of writers on economics and use the latter set of terms. In doing so, however, it must be understood that labor includes all effort put forth by men, whether that effort be physical or mental, or a combination of both; that land includes everything which nature, outside of man, provides, even though it be above or below the surface of the earth; and that capital includes all joint products of man and nature which are used, not for direct consumption by their owners, but for the purpose of aiding them in getting other goods which they can consume or enjoy.

Other helps to national prosperity. National prosperity depends, to be sure, upon many other things, such as organization, a good system of laws which encourage rather than discourage production, a body of sound and wholesome tradition, and a system of morals under which all vigorous and constructive habits are called virtues, and are therefore approved and encouraged, and all soft and enervating habits of self-indulgence are called vices, and are therefore disapproved and discouraged. It is also important that there be a vigorous religion which shall lend an emotional support to this vigorous type of morality, — which shall, in short, create an

emotional interest in an austere and productive life. However, these three factors, — labor, land, and capital, — as we have defined them, are the elementary factors. They are the raw materials out of which national prosperity is built.

Since labor means the human factor in production, it really includes not merely the wageworkers but all kinds and classes of human beings who have any part in production. It is, of course, just as important that there be strong, capable, and well-trained men as that there be productive and well-tilled land and good tools, machinery, and other equipment. It is not enough that the people be merely capable in a general way; it is necessary also that they be trained in many specialized forms of skill. These specialized forms of skill must, naturally, be the kinds that are especially needed. One might develop remarkable skill in the performance of a certain feat; but if no one needs to have it performed, it is of no advantage either to the doer or to the community. This means that it is necessary to increase the quantity of those special forms of ability which seem to be in demand, — that there be more men who can do certain important things which relatively few are now capable of doing. In our complex civilization it is not likely that one individual or one kind of skill can produce the whole of any article. It usually takes several men, each one doing a special kind of work requiring a special kind of skill, to produce anything. If one special kind of skill is lacking, the other workers may be helpless. Not many years ago a glass manufacturer was planning a new branch of his business, in which a new product was to be produced and several hundred men were to be employed. Brick and mortar and all building materials, as well as tools and machines, could easily be procured. All the labor necessary for the running of the plant was available, except one special and highly scientific expert. He could not be found in the country. As a consequence, the new branch of the business could not be started, the new product was not produced, and employment

was not given to several hundred men. It was obviously very important for that community and for those laborers that they should have a larger supply of that special scientific and technical ability. One man trained for that kind of work might easily have been worth as much to the country as a hundred men trained for a kind of work for which there were thousands of others already trained.

A highly efficient system of education should have anticipated the need for these experts and should have trained them. Given a race of high average natural ability, the problem of supplying these highly specialized experts is mainly a matter of education. The probability that among a hundred millions of people of high ability a few could be found with the capacity for the special training needed is so great as to amount to a certainty; but it is the task of the educational system to discover these persons and then to give them the necessary training. The nation with such an educational system as this, together with a population of high natural ability, is not likely to be beaten in economic competition. By far the most valuable resource of a nation is its fund of human energy, which means its people. If this resource is rich to begin with, and if it is thoroughly developed by a sound and efficient educational system, the nation has the first and most important essential of greatness. Nations have grown rich and powerful in the midst of rather poor natural conditions, by reason of the fact that they have developed their human resources. Other nations have grown poor and weak in the midst of rich natural surroundings by reason of the fact that they have wasted or failed to develop the productive capabilities of their people.

Land. Rich natural resources are, however, very important; that is to say, a nation which develops its human resources properly can prosper more if it possesses a rich territory than if it possesses a poor territory. That is so obvious as to need very little discussion. It is very much like saying that though a good farmer may manage to prosper on rather poor land,

nevertheless he would prosper more on good land. This brings us to the consideration of the other original and primary factor of production, namely, land. The productive power of land is not simply a matter of acres, any more than the productive power of labor is a matter of numbers. Quality is as important as area, though area is very important. Area is important in agriculture because it takes area to catch the sun's rays and the rainfall, without which plants cannot grow. It also requires area to give standing room to plants. But with all these advantages which go with area, if there be no soil or plant food in the soil, there can be no production.

The productive power of the soil itself depends partly upon its physical and partly upon its chemical condition. A good physical condition depends upon freedom from stones and other obstructions which interfere with tillage and the use of machines, a good subsoil which permits excess water to percolate downward in time of heavy rainfall and then to rise to the surface in times of drought, sufficient porosity to permit the roots of plants to penetrate easily, sufficient firmness to lend support to the plants, and so on. A good chemical condition depends, first, upon the absence of injurious acids and alkalis in dangerous quantities, and, second, upon the presence of the elements of plant food in sufficient quantities and in proper proportions. Plants, like animals and human beings, need a balanced ration and cannot thrive without it. There are many of these food elements, but those which are most likely to be absent or insufficient are nitrogen, phosphorus, and potassium. Generally speaking, any soil which possesses these three elements in the proper proportion may be said to be good soil, so far as plant food is concerned. The other necessary elements are so universally abundant as to furnish the farmer no occasion for worry or even forethought. Only the limiting factors of production are considered to be of any economic importance. Hence only those which are likely to be scarce and to limit production are called economic factors.

Mineral lands. Mineral lands differ so fundamentally from farm lands as to be almost in a class by themselves. While farm land is so widely distributed as to give almost every section of the earth's surface some opportunity for a profitable agriculture, and while no section can become fabulously rich in farm products, minerals are so localized as to leave large areas of habitable territory with practically no mineral resources whatever, while very small districts are sometimes so rich as scarcely to furnish building space for the dwellings of the people who live by working the mines. Coal and iron are not only the most valuable, in the aggregate, of all the minerals, but they together have done more to give the peculiar character to our present industrial civilization than any other two factors. This is sometimes called the Age of Steel, but without coal to furnish a cheap and abundant fuel, and without the rich beds of iron ore, some of which can be worked with a steam shovel, steel could not have become so abundant and such a dominant factor in this industrial age.

Capital. Capital takes on such a multiplicity of forms as to make it impossible to describe it beyond saying that it is made up of all goods, except land, which are used to get an income. They are distinguished from things which are used directly for personal gratification. Thus, all tools and machinery, stores, factories, shops, barns, fences, and raw materials not yet worked up into consumable form are capital. Dwelling houses occupied by their owners, food in the larders of consumers, the clothes which are in the closets as well as those actually being worn, books, pictures, household furniture, etc., are consumers' goods. The dividing line between producers' goods and consumers' goods is sometimes a rather dim and wavering one, but that need not disturb us much. The same may be said regarding the line which separates the animal from the vegetable kingdom, and yet we are never puzzled as to which of the two kingdoms may claim any one of our common plants or animals. The physician's automobile may

be at one time a tool of his profession, and therefore capital, and at another time a pleasure vehicle, and therefore a consumers' good. Many other objects may be so close to the dividing line as to puzzle us at times, but the great mass of the objects with which we are concerned are easily classified.

Capital, like consumers' goods, comes into existence through the application of labor, ingenuity, and forethought to natural objects. But there is one thing which enters into the production of a piece of capital which does not enter to the same degree into the production of a consumers' good, — that is, waiting, or abstinence. If you labor to make a tool for your own use, you do not reap the reward of your labor until the tool has been completed and has been used for a time in adding to your production. You have postponed your consumption. If you sell the tool to someone else, you may at once spend the money you receive for it and avoid waiting. But the one who bought it of you now has to wait, since he has given up the opportunity to spend the money for consumers' goods and must now abstain until the tool begins to bring him in an income.

When production exceeds consumption, capital is increased. From the foregoing it will appear that the accumulation of capital depends in a very direct manner upon the character of the people. Unless the nation consumes less than it produces, it is impossible that capital should increase at all. Even if accumulation should take the form of saving money, it would still be necessary for all the people to live on the consumers' goods produced by a part of them in order that the rest of them might devote their time to the making of tools and other producers' goods. That would be necessary even in a communistic society. In our present economic system any individual who can live on less than his income may spend the balance of it on tools and other producers' goods. That which he spends for consumers' goods virtually hires men to produce that class of goods, while that which he spends for producers'

goods virtually hires men to produce that class of goods. The more money there is spent for producers' goods, the more rapidly they will accumulate. This means that the more thrifty the people are, and the more inclined they are to live on less than their incomes and to spend the balance for tools, the better equipped with tools they will be.

We now see how definitely the prosperity, power, and greatness of a nation depend upon the three factors, labor, land, and capital. A nation whose people are possessed of high average natural ability, whose educational system trains that ability (especially for those fields of work where ability is most needed), which has an abundance of rich land, and which accumulates capital rapidly, so as to supply itself with the best of tools and other equipment, has all that is needed on the physical side to make it prosperous. But much remains to be said in detail about each of these factors and the ways in which they are to be combined.

CHAPTER IX

THE QUALITY OF THE PEOPLE

Why man rules over the rest of the animal creation. In attempting to discuss the quality of the people, we are not necessarily entering upon a discussion of the whole field of physiology, psychology, and morals. There are certain outstanding qualities which man possesses in greater degree than the brutes, which civilized man possesses in greater degree than the savage, and which, in any civilized community, the more successful classes possess in greater degree than the less successful. There are other qualities, such as muscular strength, which the brutes, many of them at least, possess in greater degree than man. If these were the important qualities, man could scarcely claim superiority over the brutes. There are other qualities, such as the sense of smell and the ability to endure pain, which certain savages seem to possess in greater degree than civilized man. If these were the important qualities, civilized man could scarcely claim superiority over the savage. Some savage races seem even to possess certain moral qualities in greater degree than civilized men. Travelers have frequently praised the honesty of certain tribes, their fidelity to their friends, their courage, and their fortitude. Civilized nations are each possessed of certain characteristic vices which can scarcely be apologized for, much less defended. One who thinks that the peculiar virtues of the savage and the peculiar vices of the civilized man are the important virtues and vices will certainly reach the conclusion that the savage is really superior morally to the civilized man. But it is very easy to be mistaken in one's emphasis. We need to consider carefully what qualities really give superiority to a people.

Our present problem is to form some sort of intelligent opinion as to the qualities which a people need in order to become prosperous, powerful, and great in an economic and worldly sense. The following outline is suggested as expressing a tentative opinion on this subject. Whatever may be said on purely religious or moral grounds, a nation whose people are possessed of these qualities in superior degree will have an economic advantage, other things equal, over a nation whose people possess them in less degree.

THE CHARACTERISTICS OF A CAPABLE RACE

1. Knowledge of
   - *a.* The physical environment
   - *b.* The social environment
2. Forethought, as shown by
   - *a.* Industry
   - *b.* Thrift
3. Dependableness, made up of
   - *a.* Honesty
   - *b.* Sobriety
   - *c.* Courage
   - *d.* Fidelity
4. Reasonableness, as shown by
   - *a.* Eagerness to learn
   - *b.* Obedience to law
   - *c.* Willingness to coöperate

Man has achieved "dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth" by reason of certain powers or qualities which he possesses in higher degree than they. These are, first, his greater knowledge of and control over the forces of nature; second, his greater forethought in making provision for the future and working for distinct ends; third, his greater power of organization, or teamwork. This power of organization is the result mainly of two factors, his dependability and his reasonableness. The same powers, or qualities, have given the civilized man

dominion over the savage, and the intellectual man dominion over the ignorant man. In the future, as in the past, we must expect that the world will be ruled by the nations which possess these qualities in the highest degree.

Physical advantages over the brutes. Man's erect posture, leaving his hands free to be used for other purposes than for locomotion, must be counted as a great advantage over the brute creation. A thumb which opposes the fingers and gives him a better grasp adds greatly to this advantage. These advantages, however, would not count for much if he did not have a mind which enabled him to devise tools to be grasped and used with his thumbed hands. So far as the upright posture and the thumb are concerned, while they give him an advantage over the brutes, they alone do not give the civilized man any advantage over the savage. The posture of the savage is as upright, and his thumb as handy, as the civilized man's. In seeking, therefore, the advantages which have given the civilized man dominion over the savage we must look at the mental and moral qualities. These are not necessarily physiological in their nature; they may be mainly the results of accumulated history, tradition, and training.

Intellectual advantages of civilized men over savages. Knowledge of the forces of nature may almost be said to include control over them, though the erect posture and the thumb assist in that control. Our physical environment includes not only the physical objects which surround us but their properties and the forces which govern them as well. To know our physical environment, therefore, means to know the properties of matter and the forces which operate in and through it. In short, this is scientific knowledge. It is this which underlies all our mechanical improvements. Our social environment includes human beings and all their powers, characteristics, habits, emotions, etc. A knowledge of one's social environment includes such a knowledge of man and his ways as to enable one to work with other men comfortably,

knowing what to expect and what to depend upon. This is particularly important in those who are intrusted with the work of governing or administering the affairs of government.

Forethought. Forethought is only one aspect of what may be called the time sense. Among the many definitions of man is one which says that he is the being "who looks before and after." His memory of the distant past and his forethought for the distant future modify his actions in the immediate present more than the actions of any other creature are modified. But the past cannot be changed; only the future now lies within our control. Even industry is chiefly carried on because of the vivid appreciation in the present of those needs which are certain to arise in the future. Those creatures which appreciate future needs most vividly will, of course, labor most assiduously. The same difference shows itself among men. Those nations, as well as those individuals, who see most clearly in advance what their future needs are likely to be are the nations and the individuals who show the greatest industry as well as the greatest thrift.

There is a story of an aged savage who, after having lived in civilized communities most of his life, returned in his old age to his native tribe, saying that he had tried civilization for forty years and that it was n't worth the trouble. Much of the philosophy of civilization is summed up in that remark. Civilization consists largely in taking trouble. Genius, in the individual, has been said to consist in the capacity for taking infinite pains in one's work. It is this capacity which marks the superior race as well as the superior individual. They who find the taking of pains too burdensome to be borne will naturally decide that civilization is not worth the trouble. They who do not find it so very burdensome to take pains will naturally decide that civilization is worth the trouble, and will therefore become civilized.

This principle applies to every stage of civilization and progress. The greatest advancement is made by those who

are capable of taking the greatest pains. It applies especially to agricultural progress. It is more trouble to select than not to select seed, and to select it in the field than in the bin. It is more trouble to test cows than not to test them, to keep accounts than not to keep them, to diversify or rotate crops than not to diversify or rotate, to mix fertilizers intelligently than to buy them already mixed, to coöperate with one's pig-headed neighbors, especially if one is one's self a little pig-headed, than to work alone. It is also more profitable. In all these and in a multitude of other cases it is found that it pays to take trouble.

Thrift. Thrift differs from industry in that it consists in saving that which is already produced or possessed, whereas industry consists in producing or gaining possession of desirable objects. Even more than industry, thrift is a mark of forethought. It requires an even stronger self-control, combined with a keener sense of the importance of future needs, to lead one to refrain from consuming that which is already produced than it does to work to produce that which does not yet exist. However, the two things must always go together, in the community at least if not in the individual. The farmer, that is, some farmer, must at least save seed (which means that he must refrain from consuming it) before any farmer can labor successfully at the growing of next year's crop. One may, however, save the seed which another plants. There are some savages so thriftless as not to be able even to save seed. Needless to say, their industry, even if they were industrious, would not count for much. If cattle are benevolently given to them, they kill them all in time of scarcity. Therefore they cannot succeed even as herdsmen but fall back into a lower economic stage, namely, hunting and fishing. Such people are not likely to grow powerful enough to occasion much uneasiness to the rest of the world. Even if there were no other reasons for their weakness, they could never support numbers enough to be very strong.

Knowledge and forethought are primarily mental qualities, though there is an element of morality in forethought; dependableness and reasonableness are primarily moral qualities, though there is an element of mentality in both of them. In this age of great mental achievements, especially in the fields of physical science and mechanical invention, there is a tendency to underestimate the importance of moral qualities. This tendency may have been increased by the perception that moral teachers themselves have sometimes overemphasized the lesser virtues (that is, those which count least in the improvement of social life) and underemphasized those which count most.

Moral advantages of civilized men over savages, — dependableness. Nothing can be more important in the building of a great and prosperous nation than dependableness. Many writers have taken pains to point out how dependent we are upon one another in a highly civilized state. One way of illustrating this mutual dependence is by comparing a highly developed society to a complicated machine or a highly developed animal organism. There are many striking resemblances, among the most important of which is the interdependence of parts. This interdependence of parts increases as we ascend in the scale of organic life. In the human body, for example, or in that of any of the higher mammals, the interdependence of parts is much greater than that found in the bodies of the lower forms of life. The same change is noticeable as we ascend in the scale of social life. Each individual tends to specialize in some particular kind of work and to depend upon other individuals, who have specialized on other kinds of work, to supply him with goods and services which he cannot produce for himself. Some of the reasons why this is so advantageous will be discussed in the chapter The Division of Labor.

There can be no great amount of dependence of one upon another where the people are not dependable. This is equally true of a machine or an animal organism, but we do not

attribute moral qualities to the parts of any of them. The wheel in a machine has no choice. It must of physical necessity do whatever its construction requires it to do. But if the machine be not well made, so that some part is not compelled to work harmoniously with every other part, the whole machine will work very imperfectly or not at all. Similarly, if one part of the animal organism, especially of a highly developed organism, should fail to perform its functions, every other part is likely to suffer, and the whole organism may even die. There is no physical necessity compelling a person to be dependable, as is the case with the parts of a well-made machine or the organs of a healthy body; but it is just as important that he should be. That is why dependableness is such an important quality of the people, and why it becomes increasingly important as civilization advances. In fact, without it civilization cannot advance at all.

Our mutual dependence is of various sorts and degrees. If someone fails to do that which he is expected to do, he may imperil the lives of hundreds or thousands of his fellow men, as in the case of a switch tender or a locomotive engineer; he may occasion the loss of valuable property; or he may, as in the case of an unpunctual person, merely upset our calculations and cause many of us to waste our time waiting for him or guessing what he is likely to do. In all these cases, in greater or less degree, he occasions loss to the nation. The time we waste on account of his lack of dependableness is as truly a loss as the property which is destroyed. Aside from the direct loss of time and property, there is the greater loss which comes from the discouragement of enterprise, the lack of confidence, and the general demoralization which ensues when men can no longer rely upon one another.

Honesty. The first element in dependableness is common honesty. Men who will not keep their word, fulfill their contracts, or do business without cheating, are not only morally odious; they are also obstructions to the progress and prosperity

of the community. Perhaps this is why they are morally odious. A community made up of such people, no matter how gifted they might be mentally, could scarcely prosper. No one could trust anyone else; consequently there could be no credit. Nothing could be bought or sold without the closest and most minute inspection, and this would be laborious and therefore wasteful of time. There could be no coöperation or teamwork, but everyone would have to look after himself and spend a great deal of time watching his dishonest neighbors. Among the many advantages of honesty, therefore, not the least is that it is a great labor-saving device when it is practiced throughout a community. Of two communities which are otherwise equal, the one within which honesty prevails will advance more rapidly in prosperity and power than the one in which dishonesty prevails.

Sobriety. Next to honesty, sobriety is probably the most important element in dependableness. In a rudimentary state of society, where each individual works and acts most of the time alone, and where, therefore, there is little interdependence, drunkenness may not be so vicious as it has now become. In our interlocking civilization no personal habit or vice so unfits a man for usefulness as drunkenness. If you had to take your choice between riding behind a locomotive engineer who was addicted to drunkenness and riding behind one who was addicted to any other vice, there is not much doubt as to which you would choose. If you had to take your choice between a chauffeur who was in the habit of getting drunk and one who had formed any other bad habit whatsoever, you would not be likely to take the drunkard. Apply a similar test to anyone in any of the hundreds of responsible positions (and all positions are coming to be responsible positions) and you will reach the conclusion that the person who is addicted to drink is about the least desirable citizen you can name. There are fewer places where he is of any use and more where he is a menace than is the case with the victims

of any other vice. Whatever you may think when you are discussing, in the abstract, the relative harmfulness of various vices, you are not likely to be much in doubt when you come to a concrete case like that of a locomotive engineer, a switchman, a driver of an automobile, or even a janitor or anyone else whose lack of dependableness might endanger your life. Sobriety must obviously rank high among the virtues which go to make up what we have called dependableness.

Courage. Courage is the father of many virtues, as fear is of many vices. It is probable that as many falsehoods result from fear as from malice. In any kind of emergency you will want dependable companions who will not fail you. Their dependableness will be in proportion to their courage. Even your own courage may depend partly upon their courage, and theirs upon yours; that is to say, when you feel that you can rely upon one another, you will all feel more courageous and more capable of coping with a difficult situation than if each of you doubts the courage of the others. This applies not only to physical courage in a time of physical danger, but to moral courage in times when the larger interests of society are at stake. Men of weak courage fear to come out on the right side, and even men of real courage have their confidence shaken by the feeling that they cannot depend upon their fellow citizens.

Fidelity. Fidelity is closely related both to honesty and to courage, and serves much the same purpose. It is the quality which keeps faith even though one might gain some individual advantage by breaking faith. The habit of breaking faith or abusing confidence demoralizes a group or a community and makes any kind of effective teamwork impossible.

There are doubtless many other elements which contribute to the dependableness of a people, but these four are the principal ones. Any group of people who possess these four in high degree can rely upon and coöperate with one another and carry out any form of teamwork which they have

the intelligence to plan. A community whose people are weak in any one of these four qualities will have difficulty in carrying out any effective scheme of group action, no matter how clearly they perceive the advantage of doing so. While these are moral qualities, they are nevertheless qualities upon which the economic prosperity of the nation depends. They are therefore of just as much interest to the economist as good tools, good land, or any other factor.

Reasonableness. Reasonableness is a noticeable characteristic of progressive people, as its absence is of unprogressive people. It includes freedom from prejudice, passion, and superstition, willingness to take a sensible view of things and to be guided by sound judgment rather than by stubbornness and general contrariness. It is opposed equally to the slavish following of old customs, on the one hand, and blind and headlong pursuit of new fads, on the other. It involves a frank recognition of all the necessary conditions of social life and teamwork, and a willingness to submit to those conditions even at some inconvenience to self. It involves the willingness to help in any genuine reform movement even at some inconvenience to self, and likewise a recognition of the necessary and legally constituted methods of effective reform.

Teachableness. The first element in reasonableness is teachableness, or eagerness to learn, especially to learn better ways of doing the work which we have to do. Travelers among backward races give many strange accounts, not simply of the ineffective methods of work, which we might expect, but of the unwillingness of the people to learn new ways even when they are shown. One railroad builder who was forced to employ native labor in a backward country, which need not be named, found that they were accustomed to carry all burdens on their heads. In moving dirt they insisted even on carrying it in boxes and various receptacles on their heads. He supplied them with wheelbarrows and gave orders that they were to use these and nothing else. They used the wheelbarrows, but

carried them also on their heads, and nothing could induce them to change their immemorial custom. Another story from another backward country relates how an enterprising American undertook to substitute some well-made American carts for the exceedingly clumsy and inefficient carts then in use. The native teamsters refused to adopt the innovation, giving as their reason that the new carts were too silent, that they missed the screeching made by the wheels turning on the heavy wooden axles of their old carts. Similar illustrations could be repeated by the hundred if necessary. No nation whose people are so unteachable as these illustrations indicate is likely to become prosperous, or great in any sense, no matter how well endowed it may be with natural resources. Such nations will always remain at the mercy of the stronger nations and will survive only because their stronger neighbors show enough moral self-restraint to refrain from conquering them.

This difficulty is not simply a lack of knowledge. It is more fundamental than that. It is a habit of mind which resists knowledge, — which refuses to accept knowledge even when it is presented. Whether this is due to some defect in the physiology of the people or merely to bad teaching in the past, it may be difficult to determine. That there are constitutional differences of this kind among peoples there can be little reasonable doubt. To some the pain of a new idea is so considerable that they prefer to endure poverty and hardship rather than the painful process of learning better ways of doing things. To others the painfulness of learning is so slight as to place no obstacles in the way of progress. On the other hand, a wise but strong ruler who would establish a system of compulsory education and rigidly enforce it could doubtless accomplish a great deal in the way of increasing the teachableness of the people. During their enforced schooling they would form the habit of learning, and the pain of a new idea would be greatly reduced. A wise majority in a democracy might do the same thing for an unwise minority.

Even in what passes for a progressive nation, and among people who are ranked as moderately intelligent, there survive many practices which can only be regarded as superstitions. Some farmers still plant their potatoes in the dark of the moon rather than when the soil and the weather conditions are right. Others observe ceremonies of various kinds which have not the slightest relation to the laws of plant or animal growth. Still others refuse to submit to rules or to adopt practices which have been proved to have scientific value, either because it is contrary to their religion or because it is not the way they and their fathers have always done. Among others besides farmers there is sometimes a prejudice against "book learning" even after the book learning has proved itself a practical thing.

Covetousness. There is another form of unreasonableness, and it is probably the most destructive of all, which takes the form of jealousy or resentfulness at the success of other people. It is the worst form, perhaps the only real form, of covetousness. There are few things which so deaden the enterprising and constructive spirit of a people as this form of resentfulness, and there are few things which so encourage that spirit as a generous appreciation, on the part of everyone, of real achievement wherever it is found.

Obedience to law. Another important element in reasonableness is the recognition of the fact that if we are going to live together in groups, it is necessary for each of us to submit to many regulations, some of them at times irksome, which would be unnecessary if we could live as isolated individuals. This is commonly called obedience to law. This need not be a slavish acceptance of all laws as they now stand, but it at least involves a recognition of the orderly and legally constituted methods of changing laws, rather than a stubborn and brutal defiance of those which we do not happen to like. The purpose of law is not to repress or obstruct, but to make free, — to release energy. The traffic policeman on a crowded street

corner may be taken as a good illustration of all enforcement of law. He is not there to obstruct or hinder traffic, though he does undoubtedly hinder some unreasonable people from doing what they would like to do. But as the result of such hindrances, traffic can move more freely than it could without them, and thus the average person actually enjoys greater freedom of movement than would otherwise be possible. A reasonable person always recognizes this fact and submits to such regulations. Only an unreasonable person finds them irksome or refuses a willing obedience.

The world has generally been dominated by peoples who were law-abiding. No nation whose people refuse to submit to the necessary regulations could ever hope to grow prosperous or powerful enough to play much of a part in civilization. It would be as reasonable to expect a disorganized mob, each individual of which followed his own whims, to succeed against a well-organized and well-disciplined army. The type of discipline and regulation is different, but the necessity is just as great in a nation at peace as in a nation at war. The results of a lack of discipline come more quickly in war than in peace, but they are no more certain in the one case than in the other. It is particularly important that this kind of reasonableness shall exist in a democracy. Under a despotism the subjects may be compelled by fear to submit to regulations; in a democracy it must be largely voluntary. In other words, it depends upon the reasonableness of the people.

Willingness to coöperate. Willingness to coöperate where coöperation is desirable, even without legal compulsion, is a very important factor in the prosperity of any community. Even where everyone agrees that coöperation is needed, it is frequently difficult to get people to coöperate for community work. The reasons are many, and some of them are hard to understand. Personal jealousies, old grudges, mutual distrust, and even general all-round meanness are given as the principal reasons. It is sometimes said that the lack of leaders is

the great difficulty. It is quite as frequently the lack of followers. Everyone wants to be a leader and is not willing to follow anyone else. One of the vices of democracy shows itself in many coöperative enterprises. Instead of supporting a leader who really knows what ought to be done and how to do it, it frequently happens that the only leader who can win support is the one who can wheedle the different factions into a coöperative mood. His fitness does not consist in the fact that he is an expert in the work which is to be done by the group, but in the fact that he is an expert in the arts of persuasion, — that he is the only one who can overcome the unwillingness of the various factions to coöperate. If they were willing to coöperate, this sort of leader would not be a necessity, and they could then choose a leader who was an expert in the work to be done.

Even in the larger sense, the nation is weak if it must be led by one who knows very little about the actual business in hand, but knows only how to placate various factions and persuade them to undertake the work before them. With such a spirit among the people the indispensable man is more likely to be the orator or the persuader than the statesman or the administrator. A people among whom the efficient man is popular will never be outstripped in the arts of peace, or beaten in war, by a people among whom only a demagogue or even a persuasive orator can be popular. A people who lack the willingness to coöperate in the carrying out of great national plans and programs must be persuaded or wheedled. Lacking a despot, their first need is for someone who can wheedle them into doing that which they ought to be willing to do without wheedling. Nothing more unerringly indicates the quality of the people than the kind of leaders they pick out or follow. If they habitually allow themselves to be led by men who are proficient merely in the arts of persuasion, they are a weak people. Even that which is sometimes called executive ability, and which is too

often a convenient excuse for much stupidity, is made necessary mainly because people are too weak and vacillating to do what they ought to do without a great deal of looking after. If the people choose as their leaders men who have clear and sound ideas and marked scientific or constructive ability, regardless of their proficiency either in the arts of persuasion or in the bluster of the "great executive," they are a strong people. As the late William James pointed out, one of the purposes of an education is to enable us to pick out a good man.

If we are clear in our minds as to a few of the leading qualities which a capable race must possess, the next question is, How may a nation improve or preserve its capacity for greatness? Our original qualities depend mainly upon heredity; our acquired qualities, upon education. Education depends mainly upon the educational system and the advantages which civilization provides for the accumulation and transmission of knowledge. Few of us, unless we have thought seriously about it, realize how much of our present knowledge is due to the art of printing. By means of the printed book the knowledge acquired by one generation may be stored up and bequeathed to future generations. Without the printed book it would have to be transmitted from generation to generation on the thin air by means of the spoken word. Much that is wonderful has been transmitted orally, but much has also been lost. Such a thing as a lost art is scarcely possible in this age of printing presses. But, while much of our knowledge is due to the art of printing, more perhaps is due to the organized plans for training each generation during its growing period. A school system which gives each and every child just the training which he needs to fit him for the greatest usefulness is the dream of all educators.

Heredity and training. A great deal has been written regarding the comparative importance of heredity and training in the determination of ability and character. Some have gone

to the extreme of saying that heredity is everything, that a genius will always become a genius in spite of the lack of educational advantages, — in short, that he will find his own means of education. Others have gone so far as to deny that heredity has anything to do with a man's ability; they claim that it is all in his education, including under education all the influences which have been at work since his birth in developing his mind or shaping his character. The truth, as in most such cases, seems to be somewhere between these extremes. There is no doubt whatever that men of average natural ability may be greatly improved by education and training, nor is there any reasonable doubt that some are capable of being trained much more highly than others because of a difference in natural ability.

If we consider certain special fields of study, — for example, music or mathematics, — few will doubt that there are differences in natural talent for these studies. Any normal person can acquire some skill in either of these fields, but there are some who are so deficient in natural talent for one or the other that no amount of training would ever enable them to become highly proficient. There is a strong probability that the same may be said of any special kind of ability or skill which might be named; but in our complex civilization so many kinds of ability and skill are required that almost anyone can find some field of work in which he may excel, though there may be no good market for the kind of work in which he excels, or there may be so many others possessing the same kind of ability as to overstock the market. In either case the individual, however skillful or capable in that special field, may find it hard to make a living.

Whatever may be said regarding the relative importance of the natural ability of the people and their training, it is absolutely certain that it is more important for the present generation to give attention to the problem of its own training than to the problem of its own heredity. The latter cannot

now be changed, and there is no use worrying about it. The only thing to do is to make the most of its inheritance and see that it gets the best possible training. But when we look to the future, there is much to be said in favor of giving attention to the question of the heredity of future generations. If the most capable men and women of this and succeeding generations marry and have larger families than the less capable, and if the least capable, the feeble-minded, and the defective are prevented from reproducing their kind, we may expect a gradual improvement, generation after generation, in the native and inherited quality of the stock. If, on the other hand, many of the most capable do not marry at all, and if the others marry late and have small families, whereas the less capable have larger families, while the feeble-minded and defective multiply most rapidly of all, we must expect a gradual deterioration in the stock, generation after generation.

The age of marriage. Aside from the difference in the size of families, the mere difference in the age of marriage will make a great difference in the rate of increase of different classes. Let us suppose, for example, that there are two groups of people, which we will call groups A and B, containing a thousand persons each, each group having different habits with respect to the age of marriage. In group A marriages take place so early, on the average, that there is an average of twenty-five years between generations. That is, the average parent is just twenty five years older than the average child, enough children being born before the parents are twenty-five to balance those who are born afterward. In group B, on the other hand, marriages take place so late that there is an average of thirty-three and a third years between generations. Let us assume, further, that the number of children brought to maturity in the average family is the same in the two groups, and that this average number is four; that is, in both groups the average married couple brings four children to maturity and marries them off. The total number in each

group, therefore, doubles in each generation. But group A will double four times in a hundred years, whereas group B will double only three times. Under these circumstances group A will have increased from one thousand to sixteen thousand at the end of a hundred years, whereas group B will have increased to only eight thousand. If, in addition to this, group B should have fewer children on the average, so that they doubled only once in two generations, the contrast is still greater. In this case they would number only three thousand at the end of a hundred years. If, through so many failing to marry at all, and the rest having so few children, they should not increase at all from generation to generation, the two groups, at the end of the century, would bear the ratio of 16 to 1. Now it is rather obvious, is it not, that it makes a great deal of difference whether group A represents the more capable men and women in our nation, and group B the less capable, or vice versa.

CHAPTER X

THE DIVISION OF LABOR

As suggested in Chapter VIII, labor, land, and capital are the elements out of which national prosperity is built. Of these by far the most important is labor, since we include under that term both mental and physical exertion. It was also stated that the efficiency of labor depends upon two factors: the natural ability of the people and their training. But there are many things involved in training which are not taught in schools or learned in shops or business houses. The general attitude of mind of the whole people, their outlook on life, their personal habits, their systems of morals, and even their religion, all have their share in the efficiency of the people. The efficiency of labor depends also, to a large degree, upon its organization and the opportunity for specialization.

Adam Smith begins his great "Inquiry into the Nature and Causes of the Wealth of Nations" with a discussion of the division of labor. Other writers, both ancient and modern, had commented on the great fact of interdependence of individuals in society, but no one had gone into such detail or shown so clearly just why a minute division of labor was so advantageous. His statement of the case has scarcely been improved upon up to the present day, though many of his illustrations are out of date.

Meaning of the division of labor. By a division of labor he means, first, a system under which no one produces everything he needs, but each one confines himself to the production of that one thing or those few things for the production of which he is best fitted, exchanging his surplus product for the surplus products of others who are specializing on other things; second,

the process of dividing up the work involved in the making of a given article (each man performing a single part) and then assembling all the parts, producing a complete whole. He mentions the nail makers of his day as illustrations of the first form. A common blacksmith having many other kinds of work to do could never become very skillful at nail making, but one who did nothing else except to make nails became very skillful and could make in the course of a day several times as many as a common blacksmith. He mentions boys under twenty, who had never learned any other trade, who could make, each of them, upwards of two thousand three hundred nails in a day, whereas a common smith, even though he were accustomed to making nails occasionally, could seldom make over eight hundred or a thousand in a day. The second form of the division of labor was found in his day in the making of pins. The work of making a pin was divided into eighteen different operations, each operation being performed by a different workman. Of course, neither nails nor pins are made nowadays as they were in his day; but the division of labor has been carried even farther. They are turned out by automatic machines, but the machines are made by one set of men, and the metal is mined, smelted, and prepared by different groups; all are performing parts of the work of making nails or pins, as the case may be. Thousands of other illustrations lie all about us if we choose to look for them.

Advantages. Adam Smith names three distinct advantages which result from the division of labor:

> First, the improvement in the dexterity of the workman necessarily increases the quality of the work he can perform; and the division of labor, by reducing every man's business to some one simple operation, and by making this operation the sole employment of his life, necessarily increases very much the dexterity of the workman. . . . Secondly, the advantage which is gained by saving the time commonly lost in passing from one sort of work to another, is much greater than we should at first view be apt to imagine it. It is impossible to pass very quickly from one kind of work to

another that is carried on in a different place and with quite different tools. . . . Thirdly and lastly, everybody must be sensible how much labor is facilitated and abridged by the application of proper machinery. It is unnecessary to give any example. I shall only observe, therefore, that the invention of all those machines by which labor is so much facilitated and abridged, seems to have been originally owing to the division of labor. Men are much more likely to discover easier and readier methods of attaining any object, when the whole attention of their minds is directed towards that single object, than when it is dissipated among a great variety of things. But, in consequence of the division of labor, the whole of every man's attention comes naturally to be directed towards some one very simple object. It is naturally to be expected, therefore, that some one or other of those who are employed in each particular branch of labor should soon find out easier and readier methods of performing their own particular work, wherever the nature of it admits of such improvement. A great part of the machines made use of in those manufactures in which labor is most subdivided, were originally the inventions of common workmen.[1]

Adam Smith's opinion that the third and last of these advantages was of special importance has been fully justified by subsequent experience. Those special phases of the division of labor which he so aptly illustrated by the nail makers and the pin makers of his day scarcely exist now except in some minor industries. The nail and pin makers actually made their products with their own hands, using only such tools as could be handled and driven by their own muscles. Machines have now taken the place of the simple tool of that day. Sometimes these machines are directed and fed by attendant laborers, but sometimes they are so perfected as to require very little attention, feeding themselves automatically and stopping automatically when anything goes wrong. In these cases the work of the attendant is reduced to a minimum, consisting merely in starting the machines and putting them in order when anything goes wrong.

Differences between a tool and a machine. The difference between a tool and a machine is fairly clear. The working part of a tool is not only driven but guided by human muscles.

[1] Wealth of Nations, Chapter I.

A machine may be driven by human muscles, but the working part is guided by the machine itself. Besides, the power is not applied directly to the working parts, but indirectly through a series of mechanical devices such as wheels, pulleys, levers, cranks, etc. For example, the working parts of a sewing machine are the needle and the bobbin. These are guided by the other parts of the machine, and the power is applied indirectly. It is therefore a machine, even though it is propelled by the muscles of the operator; on the other hand, the needle of the tailor or seamstress is not only propelled but guided by the worker. The hammer of the blacksmith is a tool; a steam hammer is a machine, not so much because it is driven by steam as because the working part, that is, the hammer itself, is controlled, guided, and made to strike accurately by other parts of the machine, and the power is applied indirectly through mechanical devices. Even in the case of a riveting machine, while it has to be held in place, the actual blows are struck in rapid succession by a striking part which repeats the same motion over and over again, being guided in its rapid motion by other parts which are made for that purpose.

Advantages of machinery. The advantages of the machine over the tool are, first, that it makes possible the use of greater power than can be used to drive a tool; second, that it can be driven at much greater speed. Since the working part is guided accurately by the mechanism and made to repeat the same operation over and over again, the only limit of the speed at which it can be driven is that fixed by the strength of the materials of which it is composed. A third advantage is that, by reason of the power which may be used to drive it, and of the strength of the materials of which it is composed, it can perform operations which no tool, whose working part is guided and controlled by human muscles, could perform. Perhaps it would be more accurate to say that it can be made to control working parts which are themselves too large and

heavy to be guided by human muscles. The working part of a steel rolling mill, for example, consists of the rollers. Obviously no human hand could guide such powerful instruments, to say nothing about driving them. They are held in place and controlled by a powerful framework and, with the stupendous power which they have behind them, can perform gigantic feats.

The fact that a machine is only capable of repeating one operation over and over again suggests a weakness. It can only be successfully employed where there are operations which have to be repeated a great many times. The fact that sewing involves the making of many stitches, all of them very much alike, makes it a suitable kind of work for a machine. The binding of sheaves of grain is another operation which has to be repeated a vast number of times in the harvesting of a crop; therefore a twine binder is a practical machine. Threshing the grain with a flail also required a constant repetition of the same act; therefore we have threshing machines. In short, any operation which has to be repeated without variation a great number of times is suitable for machine work.

Human ingenuity is now able to construct machines which can perform any operation, however delicate, which the human hand can perform. Anyone who has seen the wonderful machines at work in a modern watch factory, for example, will not doubt this statement. But if it is an operation which does not have to be repeated continuously and a great number of times, it may not pay to build a machine for the purpose. It may be cheaper to do the work by hand. Even the darning of socks and the patching of trousers can be done by machinery; but unless it were done on such a large scale as to keep a darning machine or a patching machine busy a good part of the time, it will be cheaper to darn and patch by hand. There are still a good many operations of this character, especially in the household and also in agriculture, the greatest of all our industries. Much work must still be done by hand or with tools rather than machines.

Avoid competing with machines. By way of digression it may be pointed out that young people who are looking forward to an occupation should bear in mind that a machine can do anything which can be reduced to a routine, or a constant repetition of the same act, and that in the course of time all such work will probably be done by machines; therefore any occupation requiring constant repetition ought to be avoided by everyone who is intelligent enough to be trained for anything else. No machine can think or use discretion; therefore it will never be able to do any kind of mental work or any kind of physical work which requires judgment, discretion, taste, or tact. Those who do not wish to compete with machines will do well to train themselves to think, to use discretion, or to exercise taste or tact. This should be done as much in the interest of the nation as in the interest of one's self. The nation has no great need for men to do work which machines can do just as well. What it needs is men who can do what machines can never do.

Two kinds of division of labor. As suggested above, the division of labor takes on a somewhat different character when highly developed machinery comes into general use. This may be explained further by pointing out two kinds of division. One has been called contemporaneous division of labor, and the other successive division of labor. Under the contemporaneous division of labor men are, at the same time, specializing in different lines of production. One group is producing, let us say, breadstuffs and bread, another meat, another textile fabrics and clothes, and so on, each group bringing some kind of raw material through the various stages of production, until it matures into a finished product ready for consumption.[1] Another phase of the contemporaneous division is found when different men are, at the same time, producing different parts of the same product, the parts being later assembled into a finished whole. Lumbermen are cutting the timber which

[1] See Taussig, "Wages and Capital," p. 6. New York, 1898.

eventually goes into a house, while men in the ore beds are getting out the iron ore which eventually goes into the house in the form of nails, while still other workmen are making the brick or quarrying the stone which will eventually go into the foundations and the chimneys.

By the successive division of labor different sets of men are working on the same material, bringing it forward through the successive stages of maturity. Thus, following the choppers who fell the trees come the sawyers who saw them into rough boards, the carriers who transport the boards, the men in the planing mill who plane them, and so on, until the carpenters fit them into their places in the house. The iron ore goes through another series of stages, as does every bit of material which enters into the final product.

The lengthening of the process. This lengthening out of the process of production, making it extend over a longer period of time, is one of the most striking characteristics of the era of machine production. It calls for more foresight, more planning for the distant future, more expenditure of labor and investing of capital long in advance of the consumption of goods, than was ever necessary or possible in any previous age. There is, therefore, under this régime, a greater demand for foresight, for thrift, for courageous investment for the hazarding of large sums on the chance of gains in the distant future, than ever before. There may be some connection between this fact and the fact that the large rewards, in our day, go to the men who exercise foresight, who invest courageously and wisely, who hazard their time and wealth on enterprises which can only bear fruit at some distant day in the future; but to do these things successfully and safely requires great wisdom. Some, however, lacking wisdom, may blunder into success; but those who blunder are much more likely to blunder into failure.

The contemporaneous division of labor has to do with space; that is, it involves the doing of different kinds of work in

different places at the same time. This calls for the coördination of that labor and the exchange of products in order that each specialist or specialized group may get the advantage, not only of its own efficiency, but of that of other specialists and specialized groups. Where different workers are, at the same time, but in different places, working on different parts of the same product, it is necessary that someone should coördinate their work. In a great automobile factory, for example, there are many different parts being produced simultaneously. In order that these parts may all be assembled and fitted together, there must be very careful planning and organization. This is what is meant by the coördination of labor performed in different places.

The time element. The successive division of labor has to do with time; that is, it involves doing, at different times, by different men, different parts of the work of completing an article. In the same automobile factory the same piece of material is worked upon by many men in a regular order of succession. This calls for the coördination of labor performed at different times. The lengthening out of the process of production in the whole of modern society makes this form of coördination peculiarly important. Its greatest importance, however, is found outside any individual factory. Before the automobile factory could be built, there must have been much work done in procuring the raw materials for the building and the machines, in producing food and clothing for laborers, and in doing a multitude of other things. Similarly, before shoes can be made, cattle must be raised, slaughtered, and their hides tanned; shoe factories must be erected and equipped with products from the mines and forests, and a vast amount of preparation made in other ways. The labor of the herdsman must be coördinated with that of the clerk in the shoe store; otherwise we should not have shoes as we now have them. Unless this coördination is brought about, the same man would have to kill the animal, skin it, tan the hide, and go through all the processes necessary to the finishing of a pair of shoes.

Territorial division of labor. In one of its broader aspects the contemporaneous division of labor is known as the territorial division of labor. This is what takes place when one region produces that for which it is best fitted, and exchanges its surplus for the surplus of other regions which are also specializing on those products for which they are best fitted. Thus, our Middle Western states of the upper Mississippi Valley produce hay, grain, and livestock, not only to supply bread, meat, and dairy products for themselves, but for the rest of the country as well, besides sending a great deal abroad. The South grows cotton enough to supply the greater part of the world. Both regions receive in exchange for these farm products the manufactured products of the Eastern states and foreign countries, and the mineral products of the mountain states and the upper regions of the Great Lakes.

It is the territorial division of labor which gives rise to the important business of transporting goods from one region to another. Obviously, if one region should find it advantageous to produce everything needed or desired by its inhabitants, there would be no occasion for transporting goods into it. Similarly, if it did not produce a surplus of something or other which could be sold on an outside market, there would be no occasion for transporting goods outward. At the same time, the territorial division of labor is made possible by the transportation of goods, and tends to grow in importance in proportion as transportation becomes cheaper and more efficient. A slight advantage in the exchange of products might easily be overcome by a heavy transportation cost. For example, even though New England cannot grow wheat so economically as Kansas or North Dakota, yet, if the cost of transporting wheat over the intervening distance, and of transporting manufactured products back to pay for the wheat, were very high, New England might find it advantageous to grow her own wheat, and the states which now produce wheat might find it advantageous to do their own manufacturing.

The advantages of a territorial division of labor, where the transportation problem is solved, are similar to those which result from a division of labor among individuals in the same neighborhood. If it is profitable for each individual to specialize upon the work for which he is best fitted, it is equally profitable for each neighborhood to specialize. In almost any neighborhood, however, there is some diversity of soil and natural resources, as well as a diversity of talents among the people. Therefore it will seldom happen that a whole neighborhood, much less a whole region of considerable size, can profitably specialize upon a single product. It is more likely to happen that a whole neighborhood or region will find it advantageous to specialize upon a number of products. Thus, New England, the South, and the corn belt each produces a considerable variety of products, but each also finds it advantageous to import a considerable variety of other products. New England, for example, probably secures her bread and meat at less cost to herself by devoting most of her energy to manufacturing and then exchanging her manufactured products for the wheat and beef of the West than she would if she tried to grow these important food products on her own soil. Let us suppose that the labor of an average man will produce in a year eight hundred dollars' worth of goods in an average New England factory, but only six hundred dollars' worth of wheat on an average New England farm. Let us assume that it costs twenty-five dollars to ship his goods west, and seventy-five dollars to ship the wheat east. Let us assume, further, that in the wheat-growing sections of the West the labor of an average man will produce a thousand dollars' worth of wheat, and only eight hundred dollars worth of goods in a factory. It can easily be figured, so long as the conditions remain as we have assumed them to be, that the wheat section can get more satisfactory products for its labor by growing wheat than by manufacturing, and that New England can get more wheat for her labor by manufacturing than by growing wheat.

International division of labor. When the territories considered are not different sections of the same country but different countries, we have what is known as the international division of labor. Were it not for certain uneconomic factors which enter into the problems of national life and existence, everything which can be said in favor of a territorial division of labor and freedom of exchange within a country could also be said, and with equal force, in favor of an international division of labor. The chief of these uneconomic factors is the possibility of war. War is the greatest disturber of normal economic activities, and until it can be eliminated, every nation must calculate upon its possibility and be prepared for it. In case of war a nation which is not prepared to produce all the necessaries of life, as well as all military supplies, may find itself helpless before a foreign enemy. Its only other hope would be to keep open the channels of commerce which connect it with outside sources of supply, but this is one of the things which the enemy country would try to prevent.

In some animal societies, and especially in the colonies of certain insects such as bees and ants, there is an elaborate and admirable division of labor. Elaborate and admirable as it is, however, it is rudimentary as compared with that which is found in any highly developed industrial society. There is no such minute division of labor and extreme specialization as is found in a modern factory; there is no such detailed planning for the distant future, there is no such bringing together of materials from distant places, there is no such coördination of labor performed at such widely separated times and places, there is no such system of exchange as we see carried on all about us in our own communities. If you will study the various material objects on your dinner table and find out all about each of them, you will find that literally thousands of people, few of whom you ever saw or heard of, or who ever saw or heard of one another, have had a part in the preparation of your meal and the table, dishes, knives, forks, and spoons

which you use. It is through the system which we have called the division of labor that you, by doing a very few useful things and doing them well, find a considerable variety of objects on your table at the proper time without your having given much thought to any one of them.

No preconceived plan. This is sometimes called the organization of industry. The term *organization* may be a little misleading, though not necessarily so. It seems to imply that somebody thought it all out or planned it and then organized the system. It did not come about in that way. The process was more nearly like the slow growth of an organism. Each individual has looked about for something to do in order to earn a living, and has taken what looked to him at the time as the most available opportunity. Wherever there was a scarcity of workers, there has been an opportunity for a new worker. Wherever there was an oversupply, the opportunity has not looked so good. By that simple process in which each individual chose to do that which he could do best, the whole elaborate system has been worked out.

Adam Smith's remarks, quoted earlier in this chapter, regarding the way in which the minute division of labor has aided in the invention and improvement of machinery, may be applied to the much greater problem of the development and improvement of a great and complex industrial system. When each workman spends all his time performing a single operation, it is much easier for him to devise a better way of doing it than it would be if he had to give his attention to many things. It is probable that no important and complicated machine was ever invented and made to work successfully without a great deal of trying out, modification, and general improvement. In actual use many weaknesses in the machine are revealed, which no inventor, however wise, could have foreseen and prevented. What is sometimes called the heroic theory of invention does not actually work in practice. By the heroic theory is meant the theory that a great invention springs,

a completed whole, from the mind of the inventor, as Athena sprang full-armed from the head of Zeus. The fact seems to be that no human mind is capable of inventing a complete and successful machine without many trials, failures, modifications, and detailed and piecemeal improvements. Even such a simple device as a bicycle passed through a long and interesting evolution before it reached a stage which made it genally useful and popular. The automobile is another illustration of gradual and detailed improvement after it was actually in use.

If it is impossible for any human intelligence to invent and construct at once a satisfactory automobile, it would be obviously impossible to have invented and organized a whole industrial system. It would present an infinitely more difficult problem than the invention and construction of any machine that was ever built. It has been by age-long trial and error, variation and selection, experiment and failure, that even a tolerably successful industrial system has been worked out. There are doubtless endless improvements yet to be made, but they will certainly be made by the same process of gradual and piecemeal adjustment. Anyone who thinks that he can devise and organize a better system than the present shows, by the very fact that he thinks so, that he is unfitted for the task. He shows that he lacks the first element in fitness; namely, a knowledge of the vastness of the problem and the infinite number of difficulties to be overcome. It is different, however, with one who thinks of some detail in the present industrial system which might be improved. This presents a problem worthy of the greatest minds, and it also furnishes a possibility of genuine achievement.

CHAPTER XI

POWER

Power needed for moving material objects. It has been pointed out in Chapter VIII that man's work, on the physical side at least, consists in moving material objects. For this work the first essential is power. The power first applied was, of course, that which was generated in his own body and exercised through his own muscles. But the secret of the industrial success of modern civilized nations lies in their command of other sources of power rather than in any superior muscularity of their own.

Animal power. The first of these other sources of power which man utilized on a large scale was that of animals which he domesticated and enslaved. They are still one of the most important sources, if not the most important source, of power. According to the *Yearbook of the United States Department of Agriculture* there were on the farms of the United States on January 1, 1916, about 25,731,000 horses and mules, to say nothing of those in use in the cities and towns. The latest figures for horses and mules not on farms are those given in the census of 1910. On April 15 of that year there were 3,543,000. Assuming that there were as many in 1916, it would bring the total up to 29,184,000. Some of those on farms, of course, are colts too young to work. Those of working age, both on farms and not on farms, are probably close to 25,000,000. Besides horses and mules, a few oxen are still used. The "primary horse power" (that is, horse power in its original sense) used in manufacturing in the United States in 1914 was estimated at 22,547,574. It has been increasing rapidly, so that by 1916 it was certainly much larger. It is not easy to compare the

actual working power of a horse with that of the horse-power unit as used in measuring the power of a steam engine, but, assuming that they are equal, it would appear that the total animal power in use in the United States is very nearly as great as the total steam and water power used in manufacturing.

Among the animals which have furnished power for man's work may be named the horse, the mule, the ass, the ox, the buffalo, the camel, the elephant, the reindeer, the llama, the dog, and the goat. Of these, the most important for the north temperate zone is the horse, though the ox is a close second. Originally, in fact until very modern times, the horse was used mainly to carry man himself or loads of material on his back rather than for traction; that is, for pulling or drawing loads. Such traction as he was required to perform was the drawing of war chariots and carriages of state, and, later, carriages and vehicles for the conveyance of travelers. His speed fitted him especially for this work. For the slower and heavier work of plowing, harrowing, and drawing heavy loads of farm produce the ox was long considered superior. In the first place, he was larger and heavier than the horses of that day. His heavy body and short legs and his general anatomy seemed to fit him peculiarly for pulling. He fights by pushing with his head. This seemed to call into play the same muscles, bones, and joints as are used in pushing on the yoke. During the last century or so the horse and the mule have been gradually displacing the ox even in agriculture.

Displacement of the ox by the horse. Two factors have contributed to this change from the ox to the horse and the mule as a source of power for farm work. One is the development of large and heavy breeds of horses of such strength and docility as to fit them as well as oxen for the pulling of heavy loads. The other is the development of farm machinery. All large breeds of horses, however, have been developed in the northwestern parts of Europe; that is, in Great Britain, northern France, Belgium, Holland, and Denmark. Whether this is due

to something in the soil or climate, or simply to the ability of the people of those countries as animal breeders, it is impossible to say. Russia and Hungary are also horse-breeding countries and use horses to a certain extent for traction purposes, but they have not produced such huge draft horses as the other countries mentioned. The United States is also breeding large numbers of heavy draft horses, but we have imported our breeding stock from Great Britain, France, and Belgium. We surpass all other countries, however, in the number, quality, and speed of our trotting horses. The lighter breeds of horses not only lack the weight necessary for drawing heavy loads but they are also likely to be too nervous and excitable. The United States and Canada, together with the countries which originated the heavy breeds, have pretty generally substituted the horse and the mule for the ox even in farm work.

The mule. Southern Europe and the southern part of the United States have made large use of the mule. This hybrid, combining something of the patience and endurance of the ass with the size and strength of the horse, is admirably adapted to farm work in climates where the huge draft horses of the north suffer from the heat, and where the lighter horses of the south are too nervous and excitable for the slow, heavy work on the farm. Even the ass has played a humble though useful rôle by furnishing power to those who could not afford a more expensive animal, such as a horse or a mule.

Both the horse and the mule, even the huge draft breeds, have one great advantage over the ox; that is, their more rapid gait. While they cannot trot as well as the lighter breeds of horses, they can trot very much better than the ox and they can walk much faster, and in farm work it is this faster walk which counts.

The factor which has had a great deal to do with the substitution of the horse and the mule for the ox is the increased use of agricultural machinery. This has required power of a superior kind, and the horse has proved to be much better

adapted than the ox to the drawing and handling of machinery. This is mainly because of his more rapid gait. When the farmer has his money invested in expensive machinery, it is important that he get as much work out of it as possible. He can scarcely afford to allow it to run so slowly as would be necessary if it were drawn by oxen.

Farm machinery. Still another factor which has contributed to this end is the higher wages for farm labor in the countries of northwestern Europe, Canada, and the United States. If a farmer were hiring labor at a very low wage, it would not be so important that he get the most possible work out of his hired man. But when labor is expensive, it works very much as it does when tools and machinery are expensive. It is thus important that as much as possible shall be accomplished by each laborer. It is therefore better to give him a fast-walking team than a slow-walking team.

Historical importance of the ox. The ox, however, from the most ancient times until quite recently, has been the chief if not the sole draft animal of all the races that have used draft animals at all. His docility and patience, his great strength, the cheapness of his harness, and his ability to find his own living when not at work, contributed to make him a most valuable assistant to man in his struggle for the conquest of the earth. In the pulling of the heavy wooden plows and harrows that were in use before the modern steel tools were invented, and the lumbering carts that were in use before modern vehicles were constructed, he enabled men to cultivate the soil on a vastly more extensive scale than would have been possible by human muscles alone. He thus contributed to the production of food for increasing populations of men, and in the end he contributed his own body to help feed them, and his own hide in order that they might be shod. In many parts of the world he is still the principal draft animal for farm work. In southern Europe, southern Asia, and parts of South America one may still see magnificent teams of oxen

at work in the fields and drawing carts along the highways. They move with a steadiness and massiveness which give the impression of irresistible power, but they are too slow for most of our hustling Americans, though a good many oxen are used in the rough lands of New England. If we take the whole history of man's use of power, it is probable that the ox has furnished more in the aggregate than any other agency, not excluding coal and steam.

Tropical animals. The Asiatic elephant and the camel are admirably fitted for tropical and subtropical countries, the former in moist and the latter in dry climates. The African elephant has never been domesticated, either because of his fierce and intractable disposition or because the natives of Africa did not care to domesticate him. It is a remarkable fact that the native African races never domesticate any animal, not even the zebra, which appears to be capable of domestication. However, no other race has reduced any animal to domestication since prehistoric times. Prehistoric man was either our superior in this art or else we have not sufficiently felt the need of any more animals. The prodigious strength and the remarkable intelligence of the elephant fit him for a variety of operations besides pulling loads. He requires considerable quantities of coarse fodder such as grows abundantly in warm and moist countries. The great advantage of the camel in dry countries is, of course, his well-known ability to work for long periods without water. He is used in parts of southwestern Asia and northern Africa. The water buffalo posseses qualities almost the opposite of those of the camel; that is to say, he can work only where water is abundant and easily accessible, not only for drinking but for frequent bathing or wetting of the skin. He is a powerful animal and well adapted to working in muddy lands and irrigated rice fields.

In polar regions, where vegetation is scarce, the problem of animal power is a more difficult one. Where moss and lichens abound, the reindeer is a valuable source of power. In the

high mountain regions of Peru the llama is used for carrying loads but not for traction. Where forage is not found in sufficient abundance, but where meat and fish can be provided, some carnivorous animal has to be used. The dog is the only one which is sufficiently well domesticated to serve the purpose.

Solar energy. The great physical source of power, so far as man has been able to develop it, is understood to be the sun. The amount of solar energy which comes to the earth in the form of light and heat is so stupendous as to bewilder the imagination. Its most important service is in the promotion of plant growth, and, through plants, of animal growth; but it is also transformed into mechanical power in a number of ways.

In the first place, it vaporizes water. Since the air is heavier than water vapor, the latter rises, or, more literally, the air falls through gravitation. When this water vapor reaches high altitudes and is congealed, it becomes heavier than air and falls through gravitation in the form of rain, snow, etc. Some small fraction of it falls on mountains and other high portions of the earth's surface. Gravitation still pulls it downward through the streams. These are harnessed and made to turn water wheels, thus furnishing mechanical power to do man's work; that is, to move pieces of matter.

In the second place, through plant growth combustible material is stored up in the bodies of trees and other plants. When this material is burned, heat is developed which may be used to vaporize water. In the form of vapor the water expands and may be made to push a piston, which is, again, a usable form of mechanical power for the moving of other bodies. The accumulation and covering over of vast masses of combustible vegetable material in previous geological periods gave us our coal beds, which have recently become a principal source of both artificial heat and mechanical power. It is generally supposed that petroleum is of animal origin. If so, it is, like coal, the product of solar energy and may be used, like coal, to transform water into steam. The internal

combustion engine is a later development and is, in many ways, a superior method of transforming combustion into mechanical power.

In the third place, the direct rays of the sun may be so concentrated as to produce an intense heat, which may, in turn, be used to transform water into steam. According to tradition, the great mathematician, Archimedes, burned the Roman ships, which were besieging his native city of Syracuse, by the use of a large number of mirrors. By reflecting the sun's rays from all these mirrors upon a single spot, so much heat was concentrated as to set the ships on fire, one after another. Whether there is any foundation of fact for this story or not, there is no doubt as to the possibility of producing an intense heat by the concentration of the rays of the sun. Anyone can demonstrate this with a common burning glass. Solar engines have already been constructed which make use of converging mirrors for the concentration of the sun's rays. This produces an intense heat, which, in turn converts water into steam and moves a piston.

Winds. In the next place, if we may assume that winds are in general caused by variations in temperature, they may be said to be derived from solar energy. This mechanical power, as used for the moving of boats, has been of the very greatest importance in the development of commerce and the spread of civilization. The epoch-making voyages of Columbus, as well as the voyages of great numbers of men less noteworthy than he, were made possible by the ingenuity with which man had learned to utilize this vast source of power. For certain kinds of stationary work which does not have to be performed regularly, such as pumping water, grinding grain, etc., the windmill has proved an economical device for utilizing the power of the winds.

Tides. Another source of power of which some use has been made is the tide. This can be traced to the momentum of the earth rather than to solar energy. The rising and the falling of the tides, especially along coasts with many inlets

and estuaries, have created opportunities for tide mills which can be made to do certain kinds of work.

With all these sources of power, and possibly others which may be developed, there is no likelihood that our ingenious race will ever be compelled to fall back upon its own muscles, or even to depend exclusively upon animal power. In that distant day when our coal beds and oil fields are exhausted, the sun's rays will still continue to strike the earth. That being the case, trees and other plants will still grow, though wood could scarcely take the place of coal and petroleum. Alcohol can scarcely become as cheap as gasoline has been in the past, but it can be manufactured in considerable quantities from a variety of plants. Again, the rains and the snows will continue to feed our rivers and turn our water wheels. Electrical transmission will enable us to utilize many streams now running idly to the sea, and to distribute the power over wide areas and send it long distances from the streams. Solar engines may be so perfected as to enable us to utilize the inconceivable and inexhaustible flow of energy which comes to us in the form of direct rays from the sun. The winds will continue to blow and push our sails and turn our windmills. And so long as the earth continues to revolve about its axis, the tides will continue to ebb and flow, and these may furnish us considerable quantities of power.

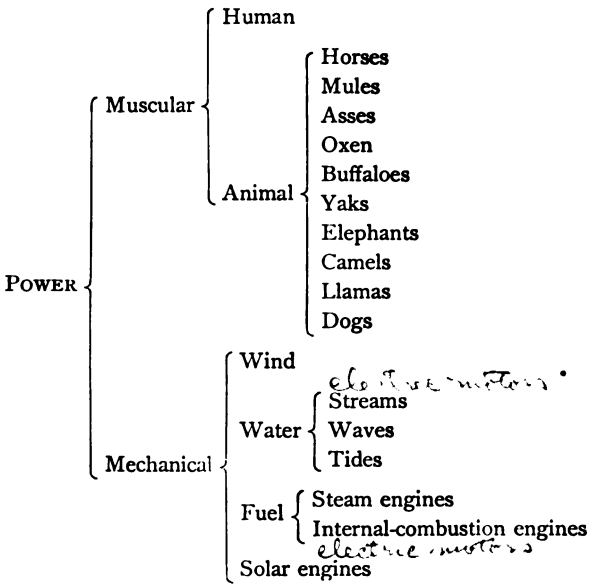
Even if it should happen that none of these sources, nor all of them combined, should furnish power quite so cheap as that which we now enjoy through the use of coal, still we may become so well-to-do, through improved agriculture, improved technical processes for utilizing power, and more rational habits of living, as to enable us to bear the extra cost of these other kinds of power with no great inconvenience. Even if this should not happen, it must not be forgotten that a considerable number of civilizations have been built up and multitudes of people have lived comfortably and happily with no power except that of their own muscles, their domestic animals, the winds, and the waterfalls.

The steam engine. Next to the yoking of the ox at some time in the prehistoric past, the most momentous event in the history of man's power was the invention of the steam engine. The reason why this was so momentous was that the coal beds of the north temperate zone furnish a vast quantity of very cheap and very concentrated fuel. It is difficult to see how the heat of burning coal could have been transformed into mechanical power in any other economical way. The great cheapness and economy of this source of power is what has made it such a powerful factor in the development of modern industry. By merely vaporizing water in a boiler by means of this cheap fuel, enormous pressure can be exerted. This pressure can be made to move a piston. From this point on, further developments are merely the results of mechanical adjustments. Whenever one object, such as a piston, can be made to move as we want it to move, other objects can be hitched to it and be made to move also. The first of these mechanical adjustments to produce great results was when the moving piston was made to turn a wheel, thus converting linear motion into circular motion. After that adjustment was made, every form of steam-driven machinery became a mechanical possibility.

Time does not permit us to mention all even of the really important adjustments which have been made for the greater utilization of the pressure of steam on a movable piston. The economical conversion of mechanical power into electricity, and of electricity back into mechanical power, has enabled us to utilize power in a variety of ways which were formerly impractical, besides giving rise to an electrical industry of vast proportions. The internal combustion engine has made possible automobiles and flying machines.

Roads. The subject of roads and tracks would furnish an interesting study to supplement a study of power. The better the track, of course, the less power it requires to move an object. This would include everything from the air and the ocean, railway tracks, paved streets, and dirt roads, down to the

lubricated grooves, cylinders, and sockets through which the parts of a machine are made to move. Roads, streets, and railway tracks will be discussed under the head of transportation. The rest must be left to the imagination of the student.



CHAPTER XII

LAND

Factors in the Productivity of Land

A. Noneconomic { 1. Solidity; 2. Extension } *B.* Economic { 1. Location; 2. Fertility }

Noneconomic properties of land. Some of the physical and geometric properties of land which are the most fundamental are not the most important from an economic point of view. The solidity of the earth which serves to support our weight, and that of the buildings which we erect and the plants which we grow, is of course essential to our very existence. It is not a matter of the greatest economic interest, however, because it is not so scarce as some other properties. Rocky or desert land, of which there is an abundance, furnishes support as well as fertile land. The quality of extension, that is, superficial area, is also essential. It is this which enables us to catch and utilize the sun's rays, the rain, and the dew. It is this which provides room for plants to grow, to spread their roots to the soil and their leaves to the air. It is this which furnishes space for the erection of buildings and the carrying on of all activities. This quality of extension, however, is possessed by sterile as well as by fertile land, and by land which is badly located as well as by land which is well located.

Economic properties. Location may also be said to be a geometric property of land. It is a matter of great economic importance, because there is such a scarcity of land in the best locations. By location is meant proximity and convenience of access to markets, roads, schools, scenery, and various other desirable things. Some land is greatly superior to other land

in this respect, and this creates a great difference in the desirability of different lands. Location is the chief, almost the only factor in determining the value of urban land. In a place where multitudes of people desire to live, land is necessarily scarce, but the scarcity is a scarcity of land well located for urban purposes; that is, for business or for the dwellings of those who have to live within reach of the business establishments. Moreover, the differences in the value of lands within a city are due almost wholly to differences in location. In agricultural communities location is a factor, but not the only nor the most important factor, in determining land values. Nearness to market or to railroads, the character of the wagon roads, accessibility to schools and other social advantages, count for much; but the character of the soil and the subsoil, the climate, the moisture, and the other factors which determine plant growth, count far more. All these factors which promote plant growth may be grouped under the name *fertility*. In that case we may say that from an economic point of view location and fertility are the most important properties of agricultural land.

Good location saves transportation. When we look for the reason why location is a matter of such importance, we must recall the fact that man's chief work, on the physical side, is the moving of materials. It is this which requires power; and power is costly, whether it be generated in the human body and exercised through the muscles, or whether it be developed in the bodies of animals, or through mechanical agents. One very important phase of the work of moving materials is that of marketing products. The nearer a body of land is to a market, and the better the means of transportation, the less labor and power it takes to get its products to market. On land which is well located with respect to markets it is therefore possible to utilize labor more efficiently than on land which is badly located.

It is also costly to move man himself. It is therefore advantageous that he should live in close proximity to his work.

If he lives far away, the cost of transportation is greater, and the labor force of the community is less efficiently applied, than if he lives close by. Even though the trolley fare is the same for a long as for a short distance, transportation costs more over the long distance. In the first place, it takes a longer time and the passenger loses that time. In the second place, it costs the transportation company more, and that extra cost must ultimately reduce the total productive power of the community. The extra labor required to transport passengers a longer distance might otherwise be used in other lines of production. However, the sheer scarcity of land, both for business and for residence purposes, forces population to spread and makes long-distance transportation necessary, however costly it may be.

In proportion as transportation can be cheapened, in that proportion will questions of location become of less importance from the standpoint of production. From the standpoint of consumption or direct enjoyment, cheapened transportation would apparently make little difference. Certain neighborhoods, because of neighbors, scenery, fashion, and a variety of reasons, would still be preferred to others. If one could imagine costless transportation, such as is pictured in the Arabian Nights by the story of the magic rug, on which one could be instantly transported to any distance, one location would be as desirable for production as another; that is to say, if there were no difference between two pieces of land in fertility or in anything else except location, they would be equally desirable. It would cost no more to transport products to market, or men to and from their work, in one case than in another. So far as location is concerned there would be no scarcity of land until all the unoccupied portions of the earth were occupied and utilized. In short, such a perfect system of transportation would vastly increase our available supply of usable land.

While it is obvious that no such instantaneous and costless system of transportation will ever be devised, it is equally obvious that the more nearly we can approach that system the

more land we shall have available for all sorts of purposes. It is the superiority of modern as compared with earlier means of transportation which makes possible those vast aggregations of people known as cities. They can draw their supplies from greater distances and in greater abundance than would be possible with less efficient means of transportation. Ancient cities that were situated on navigable rivers or on the seashore had the advantage of water transportation, which, even before the days of steamships, was fairly cheap and efficient. Nonperishable products, such as wheat, could then and can still be transported long distances in sailing vessels at low cost. Consequently, where water transportation was possible, cities of considerable size grew up long before the days of steam railways. But inland cities, such as many of those which dot the maps of every progressive country, would have been an impossibility.

Access to food supplies. It seems to be a general rule, applying to all forms of life, that numbers depend upon food supply. Where food is abundant, numbers may be large. Since food comes ultimately from the soil, the capacity of the soil to produce food places a limit upon numbers. One of two things must, of course, follow: a large population must either spread over wide areas of land in order to find sufficient food, or it must transport food from these wide areas where it is produced to the densely populated centers where the people live. Certain birds reverse this process and manage to live a part of the time in large flocks and transport themselves to and from their feeding grounds. If they are strong fliers, as were the wild pigeons which formerly inhabited this continent, they may feed over large areas and return to their roosting places at night. It was their remarkable powers of flight which enabled such vast numbers to roost in the same locality; otherwise they would have been compelled to break up into smaller flocks in order to live nearer their feeding grounds. The same law seems to apply to human flocks. If we were not able to transport food and other supplies such long distances, our large

cities would be compelled to scatter and build many smaller cities, or else live as scattered families, in order to be nearer the sources of supply. Even with our present means of transportation there are limits beyond which it does not seem to be advantageous to concentrate our population. Consequently we find many small cities and towns whose people live by the indoor industries. They are nearer sources of supplies of various kinds, besides having more room for their own industries.

Increasing floor space by erecting tall buildings. The necessity for room for the indoor industries can be supplied in part by tall buildings. Floor space can be increased by as many stories as can be built, subtracting, of course, the space necessary for elevators, stairways, airshafts, etc. But after a very moderate height is reached, the cost of construction increases more than in proportion to the added floor space. To add one more story on the top of a tall building requires stronger walls all the way down, and also a better foundation. Besides, it costs more to carry the building materials to the greater height; the cost of elevator service to the top floor is somewhat higher than for lower floors. A twenty-story building is of a very moderate height in some of our large cities, where land is very scarce; but even this height would be absolutely unprofitable in a town where there was plenty of room on the ground.

Streets. The traffic needs of a busy population also make demands upon land for streets. Much the same methods are used to economize land for street purposes as for building purposes. The building of subways, sub-subways, elevated roads, and viaducts is a familiar method. It used to be suggested in a jocular way that a road through the air would also economize land. Flying machines may eventually transform that joke into a real economy. Superior pavements for the support of larger and more powerful vehicles will also economize road space somewhat, by permitting more traffic to be carried on over a street of given width.

Economizing agricultural land. These methods of economizing land are suited to urban rather than to rural districts. Space is required in agriculture, as suggested above, for the utilization of solar energy, soil, and moisture in plant growth. "Two-story farming," as Professor J. Russell Smith calls it, consists in growing tree crops and ground crops underneath the trees. Some space can be saved in these ways, where there is plenty of sunlight, soil, and moisture, but not a great deal. It enables the plants to utilize sunlight a little more effectively, perhaps, because the low-growing plants can use that which filters through the foliage of the trees; but if the trees use too much (that is, if the low-growing plants are shaded too much), their development is retarded. There may be some economy of soil fertility also if the trees send their roots deeper than the smaller plants. In that case the two kinds of growth do not compete directly for soil fertility. Where an abundance of artificial fertilizer can be used and water for irrigation is plentiful, an adequate supply of plant food and moisture can be supplied to both kinds of vegetation. In this case the limiting factor is sunlight. This is a factor for which we have not yet found a good substitute. Therefore we must continue to spread our cultivation over wider areas if we are to support larger populations.

Intensive farming. "Two-story farming" is only one phase of intensive agriculture, which may be defined as the use of large quantities of labor and capital in the cultivation of relatively small areas of land in order to get large crops per unit of land; that is, large crops per acre. As pointed out in Chapter XV, extreme efforts to increase the productivity of land tend to decrease the productivity of labor; that is, to reduce the product per unit of labor. When a country becomes thickly populated, however, if its people are unwilling to migrate to countries where land is abundant, the problem of economizing land becomes one of great importance. So long as it can find markets for the products of indoor industries, it may

bring the products of the soil from less densely populated countries. When these outside markets cease to expand, and it is therefore compelled to live more and more from the products of its own soil, it must perforce get more and more out of its soil. Intensive agriculture is then forced upon it. Yet, as a matter of observed fact, intensive agriculture the world over is associated with the poverty of those who actually work on the soil, though it may be also associated with the riches of those who own the soil.

Intensive farming and poverty. This impoverishment of the worker on the soil where the soil is intensively cultivated is not absolutely necessary except where the intensive cultivation is carried to extremes. It is a necessary result, however, if the attempt is made to force a larger crop from the soil by the mere application of more and more labor to each acre of land. The yield is found not to increase in proportion as the labor is increased, which necessarily means a smaller product per man. But if more capital is used, as well as more labor, particularly if better methods of cultivation are adopted and carried out by means of the larger use of capital, increasing yields per acre may be secured for a time, and up to a certain point, without any diminution of yield per unit of labor. By using more power and larger tools in order to plow deeper and prepare a better seed bed, a given amount of labor may cultivate the same acreage of land as before and yet get a larger yield per acre. This would also give a larger yield per man. Again, by cultivating a slightly smaller acreage and cultivating it more thoroughly by means of better tools, the same product per man may be secured and a somewhat larger population may be supported without any diminution in average income. But experience shows that wherever even this process is carried too far, a smaller product per man, and consequent poverty, will be the result.

A seeming exception to this rule (but it is only a seeming exception) is found when a few cultivators turn from the growing

of staple crops to the growing of high-priced specialties. Only a few can do this, for the reason that the market is very limited. The mass of the farming population must grow the crops which feed and clothe the people. Those who do succeed in this field may manage to make good incomes from very small plots of land. This does not prove by any means that the growers of wheat or beef could do likewise. So long as consumers demand wheat bread and beef as parts of a steady diet, they must draw their subsistence from considerable areas, for these products can be most economically produced by what are commonly known as extensive methods of cultivation.

Turning to heavy-yielding crops. If people would change their habits of consumption, and consume products which could be economically produced under intensive methods, or products which are capable of yielding large quantities of food per acre, a great deal of land could be saved; in other words, a much larger population could be supported from a given area.

The following table shows the estimated power of an acre of land under good cultivation, but not the most intensive cultivation, to produce food of different kinds:

	Food Value per Pound in Calories[1]	Pounds per Acre (Good Yield)	Calories per Acre	Ratio to Wheat as Basis (Per Cent)
Entire wheat flour . . .	1660	1,800	2,988,000	100
Native beef (as purchased)	1130	200	226,000	7
Mutton (as purchased) . .	1275	250	318,750	11
Whole milk	325	4,000	1,300,000	43
Corn meal (unbolted) . .	1550	3,600	5,580,000	186
Oatmeal	1860	1,800	3,348,000	112
Rice	1630	2,400	3,912,000	131
Rye meal as flour	1630	1,800	2,934,000	98
Beans	1590	2,400	3,816,000	129
Potatoes	325	24,000	7,800,000	260
Sweet potatoes	480	30,000	14,400,000	482

[1] From *Bulletin 28*, United States Department of Agriculture, Office of Experiment Stations. Government Printing Office, 1896.

Of course, there are elements of food value other than the heat-producing elements, but this table is enough to indicate that some economy of land could be effected by consuming other and more heavy-yielding crops than wheat and beef. Even these economies of land, however, might be gained by a less economical use of labor. While wheat and beef require considerable areas of land for their most economical production, they can be produced with comparatively small quantities of labor where the conditions are right. On our western wheat farms, for example, where powerful machinery can be used, a small number of men can grow and harvest a very large acreage of wheat. On our western cattle ranges also a small number of men can care for large numbers of cattle pasturing over very wide areas. If we did not have land enough for these purposes, and had to support a growing population from our own soil, potatoes, sweet potatoes, corn, beans, and milk, and milk products in the form of butter and cheese, would support many more people than could be supported on wheat and beef.

The banana and the date. Certain tropical countries have great advantages in the way of food production on small areas. Concerning the banana, Humboldt wrote: "I doubt if there exists another plant on the globe, which, on a small space of ground, can produce so considerable a mass of nourishment. . . . The product of bananas is to that of wheat as 133:1, to that of potatoes as 44:1." In Arabia and northern Africa the date is very prolific and in favorable locations produces large quantities of food.[1]

Turning to the indoor industries. It is not likely to be repeated too often that the favorite method of economizing land and supporting a large population is to give up trying to be physically self-supporting and try to become commercially self-supporting. By being physically self-supporting is meant producing from our own soil all or practically all that we need.

[1] Cf. Buckle, History of Civilization in England, Chapter XI. London, 1857–1861.

By becoming commercially self-supporting is meant bringing in the products of the soil from other countries, selling to those countries in return the products of the mines and the indoor industries. The products of the indoor industries may themselves be made from imported raw materials. In this case we bring in raw materials, work them up into finished products, and sell them again to outside people, living ourselves upon the profits of the transaction. We virtually sell our labor to other nations.

This method of building up a great population has such vast possibilities, provided we are so situated as to be able to do it, as to appeal powerfully to the imaginations of statesmen and nation builders. If outside markets fail, then we must turn to the development of our own soil, for in that case we must become physically self-supporting.

The pent-up versus the expanding type of civilization. Even though we aim to become physically self-supporting, we have two distinct lines of development open to us: one is to develop an oriental, or pent-up, type of civilization; the other is to develop an occidental, or expanding, type of civilization. By an oriental, or pent-up, type of civilization is meant a civilization in which we try to live on our existing area of land, and to support a growing population, without adding to our productive area. This leads to a gradually increasing intensity of cultivation and a gradual lowering of the standard of living of those who work on the soil, and eventually of the masses of the people. By an occidental, or expanding, type of civilization is meant a civilization in which the effort is made to maintain the standard of living and the product per man in a growing population by widening our cultivated area rather than by cultivating the original area more and more intensively. If we had been developing a pent-up civilization, we should never have spread, say, outside of the original thirteen states, but should have tried to support our increasing numbers by cultivating the soil more and more intensively. Indeed, we should probably not have left

Europe in the first place, unless it were to escape persecution. We have preferred to expand over more land rather than to try to live on the original area, whatever that original area may have been. It is difficult to see where this tendency will lead us, but it is a rather striking fact that, from the Greeks down to the nations of the present, every great European nation has been a colonizing nation. Thus people have preferred to go where land was abundant rather than to stay where population was dense. Unless we change our habit very decidedly, we shall probably continue to do the same in the future; that is, we shall try to maintain our standard of living. When this cannot be achieved by intensive cultivation, we shall swarm, or send out colonists; that is, some people will emigrate. The only alternative would be the maintenance of a stationary population through birth control.

The table on the following page shows, roughly, the area of land which it takes to produce, under fairly good agriculture, the food of a soldier for a year.

This does not take into consideration the land necessary to clothe him or to feed the horses which are used to cultivate the land. If we assume that an average family of five persons will consume as much as three soldiers, we shall conclude that it takes nine acres to produce the food for a family. Under ordinary conditions it takes approximately five acres to produce the feed for a horse. According to the United States Census, in the great farming area of the upper Mississippi Valley there is one farm horse for every thirteen acres under cultivation. If, to be fairly liberal, one horse is sufficient to cultivate on the average fourteen acres, we might conclude that one horse could furnish the power necessary to cultivate enough land to grow the food for one family (nine acres) and for himself besides (five acres).

The yields assumed in the above table are not unusually large, being about the same as those in England and other well-cultivated countries, but they are about twice the average yields in this and other new countries.

STANDARD RATION FOR UNITED STATES ARMY

Articles Consumed[1]	Ounces[1] etc. per Day	Pounds per Year	Good Yield in Pounds per Acre	Acres required to produce Yearly Ration
Beef, fresh	20.	456.25	200	2.28
Flour	18.	410.6	1,200	.34
Baking powder	.08			
Beans	2.4	55.	2,400	.022
Potatoes	20.	456.25	12,000	.038
Prunes	1.28	29.2	3,000	.009
Coffee, roasted and ground	1.12	25.55	4,800	.005
Sugar	3.2	73.	2,500	.029
Milk, evaporated, unsweetened	.5	11.5	625	.018
Vinegar	.16 gill	14.6	3,000	.004
Salt	.64 oz.			
Pepper, black	.04			
Cinnamon	.014			
Lard	.64	14.6	300	.048
Butter	.5	11.5	75	.153
Sirup	.32 gill	29.2	2,500	.01
Flavoring extract, lemon	.014			
			Total	2.956 (Roughly, 3 acres)

One very important part of the problem of economizing land is that of preserving and improving its present fertility. This is to be done mainly by careful management of the soil. Crop rotation, a proper balance between plant growing and animal husbandry in order to supply natural manure, and an increased use of chemical fertilizers are the main parts of a policy of soil conservation. How important an item natural manure is in our national economy may be shown by the following facts: It has been conservatively estimated[2] that the value of the animal manure of the country exceeds two billion dollars ($2,225,700,000). This is greater than the combined value of all the mineral output and the entire timber cut of the country at the time the

[1] Cf. "United States Army Regulations, 1913" (corrected to April 15, 1917), paragraph 1205, p. 240. Government Printing Office, Washington, 1917.

[2] *Farmers' Bulletin 192*, p. 5, United States Department of Agriculture.

estimate was made. If one third of this is wasted, it amounts to a sum much greater than the value of the entire timber cut of the country. Clearly the conservation of our animal manure is one of our greatest conservation problems.[1] The increasing use of chemical fertilizers, however, is necessary if we are to make increasing drafts upon the soil in order to feed our increasing population.

[1] "The Organization of a Rural Community," Yearbook of the United States Department of Agriculture, 1914.

CHAPTER XIII

CAPITAL

What is capital? Capital has come to play a very important part in modern industry. This increase in importance has been so great as to lead to the impression that capital has come into existence only in recent times. That which is essentially capital has been in existence as long as tools have been in existence, but it has taken on a new and very distinct importance since the rise of machine production.

As a factor in the modern economic system, capital may be defined as wealth, other than land, which is used by its owner to secure an income rather than for direct enjoyment. Land and other natural agents are usually treated as though they were in a class by themselves, and are carefully distinguished from the products of human industry and enterprise. These products of man's effort are subdivided, according to the uses to which they are put, into producers' goods and consumers' goods. Producers' goods include all tools, machines, buildings, appliances, and other forms of equipment which are used for the production of other goods; while consumers' goods, on the other hand, include only such goods as are used for direct enjoyment rather than for the purpose of producing other goods. Capital includes all producers' goods and some consumers' goods. It includes all producers' goods, because they are used for the purpose of increasing the owner's income. It also includes some consumers' goods, because some of these are used by their owners for the purpose of securing an income. A pleasure automobile, for example, which is let for hire is a consumers' good from the standpoint of society; that is, it is not used to produce other goods, but is used for direct enjoyment

and satisfaction. From the standpoint of its owner, however, it is used to get an income. He gets no consumer's satisfaction out of it, but he gets paid for its use, and this payment is a part of his income. In short, he keeps it for the sake of the income which it brings him. A dwelling house is likewise a consumers' good from the standpoint of society; but if it is rented, it is capital to its owner. He gets no direct satisfaction out of it. He gets money for its use. This money is a part of his income.

Social capital and private capital. Some writers have accordingly spoken of two kinds of capital: first, social, or productive, capital; and, second, private, or acquisitive, capital. Social, or productive, capital is identical with producers' goods; private, or acquisitive, capital includes such consumers' goods as are let, rented, or hired by their owners to other people. Consumers' goods, of course, are just as useful as producers' goods, but they are used for different purposes. Therefore private, or acquisitive, capital is just as useful as social, or productive, capital. The owner is just as well entitled to his income in one case as in the other. Capital, then, is goods; but it is that portion of the produced goods in the possession of society which is used by its owners for the purpose of securing income rather than for the purpose of direct enjoyment. It is used by its possessors, however, as distinct from its owners, either for the production of other goods or for direct enjoyment. The possessor of a rented shop is using the shop for productive purposes; the possessor of a rented dwelling house is using it for purposes of direct enjoyment.

Capital a class of goods, not a fund of value. Capital is sometimes conceived of not as a class of goods but as a fund of value. There are two reasons which lead naturally to this way of thinking, but there is danger that this way of thinking may lead us into serious error. In the first place, however capital may have originated historically, one nowadays usually comes into possession of it first in the form of money; that is,

the owner of the automobile, the dwelling house, the shop, the factory, usually spent money in order to get it. The possession of money gives one the opportunity to come into possession of these other forms of capital. The purchase of these various forms of capital is usually called investing capital. After one has purchased a shop or a factory, a house which one intends to rent to someone else, or any other income-bearing property, one is said to have invested his capital. That sounds as though the money were the capital which one had invested. That is not strictly true. One has merely exchanged one form of capital for another.

Money one form, but only one form, of social capital. The last statement implies that money is a form of capital. This has sometimes been disputed. To be sure, money is not the only form of capital, but it is one form. While it is not correct to say that capital is money, it is correct to say that money is capital. A work horse is likewise a form of capital, but it is not proper to say that capital is a work horse. There is this difference, however, between money and work horses. Very few capitalists ever find that the greater part of their capital is in the form of work horses. Almost every capitalist nowadays finds, at one time or another, that a large part of his capital is in the form of money or has passed through that form. He is continually buying and selling, receiving money and paying out money, and is not receiving work horses and paying out work horses.

Money may be said to be a tool or a means by which the community can do more work than it would be able to do without money. It is therefore, like other tools, a form of capital. It is also a very important form of capital, one which is continually coming into the possession of every capitalist and being paid out again. This leads naturally, as suggested above, to the inference that capital consists of a fund of value, or of value expressed in terms of money. While there is no objection to continuing to speak of investing capital, when one is

only exchanging money for other forms of capital, still one must be on one's guard against assuming that capital is anything else than goods. It is well to remember also that stocks, bonds, mortgages, etc. are not capital, but only evidences of ownership of capital. The shares of the stock of a railroad company, for example, are not themselves capital; they are only evidences of ownership in the railroad itself, which is the real capital.

Another reason which leads naturally to thinking of capital as a fund of value is found in the fact that capital, like all wealth, is measured in terms of value and its quantities expressed in terms of money. There is no good way of saying how much capital there is in any community or in the possession of any individual except by saying it in terms of money. If any capitalist were asked how much capital he possessed, and he were to answer in terms of tons, or cubic feet, or yards, or any other unit of physical measurement, he would not convey any clear or definite idea. Therefore, if you ask any business man to state how much capital he uses in his business, he can only answer you intelligently by saying so many dollars or so many dollars' worth. This is a mere quantitative expression. If, however, you were to ask him in what his capital really consists, he could only answer you intelligently by giving you an inventory of the various goods which make up his fund of capital. The only exception to this case would be the money lender, whose capital consists solely of money.

Pure capital and capital goods; pure weight and weighty objects. One may, however, reject the idea that capital is money and still persist in the idea that it is a fund of value. The distinction has sometimes been made between pure capital and capital goods, pure capital being a fund of value embodied in the goods, and capital goods being the things themselves in which that fund of value is embodied. The value of the goods is not capital any more than the weight of an object is the object itself. As stated above, value is the attribute

which we use in trying to arrive at a quantitative conception of the real goods. It is the only attribute which they all possess in common and which at the same time indicates their ability to serve the owner's needs. The value, however, is only a symptom of that ability, and not a cause of that ability.

The function of productive capital is to aid in production. Except in the case of money it is not the value of the goods which enables them to do their work. The value is only a symptom of the fact that they are doing that work. A producers' good which ceased to aid in production would lose its value; a producers' good which continued to be a real aid in production would retain its value. The value would be the shadow of the real thing and not the substance. Land also has value if it is productive. But it is not the value which makes it productive; it is its productivity which makes it valuable. In this respect capital and land are similar. In the case of that special kind of capital known as money, and in this case alone, its usefulness, its ability to function, depends upon value; in every other case its value depends upon its usefulness or its ability to function.

Capital the result of working and waiting. The next question to arise is, How does capital come into existence? If it consists of tools, buildings, machines, equipment, etc., it is rather obvious that they come into existence because labor is expended in producing them. But this does not tell the whole story. In order that any community may come into possession of a larger stock of tools and equipment, it must, temporarily at any rate, divert its labor force from the production of consumers' goods into the production of these producers' goods. Whether it be a communistic society or an individualistic society, this physical fact remains the same. In a communistic society, if the stock of capital goods is to be increased, some labor must be put to work making tools, machines, buildings, equipment, etc., and just that much less labor will be available during that time for the production of consumers' goods. During this period the

community as a whole will have fewer consumers' goods than it otherwise might have had. Of course, the expectation is that the tools and equipment, after they are produced and put to use, will again add to the total production. This, however, involves a certain amount of postponement of consumption. The community as a whole decides that it will have fewer consumers' goods in the present or immediate future in order that it may have more in the distant future. There is no possibility of evading this physical necessity.

In an individualistic society, however, though the same physical necessity exists, the process is slightly different. Any individual may decide that he will consume a little less in the present or the immediate future in order that he may have a little more to consume in the distant future. The way he does this is to save and invest, or else to turn aside, as may have been done in very simple states of society, from the work of gathering consumers' goods in order to apply himself to the work of making tools.

Making tools rather than consumers' goods. A primitive fisherman has frequently been used as an illustration of this simple process. He has been in the habit of catching fish with very simple tackle, but he sees an opportunity of increasing his catch if he can only get some kind of boat, so he decides to spend a part of the time each day in making one. By this combination of frugality and industry he eventually comes into possession of a boat which thereafter adds to his income and more than compensates him for the frugality which he practiced during the period in which the boat was building. This case is doubtless real enough to serve as an illustration of the essential process of increasing the stock of capital.

It has not been many generations since farmers used very crude and simple implements, some of which they could make for themselves. The farmer who made his own plow was depriving himself of the opportunity for amusement, which is a kind of consumption, or was reducing somewhat his

consumption of material goods during the period when the plow was being made. After it was finished, it assisted him in producing subsistence, and added to his income available for consumption. This is in all essential particulars similar to the case of the primitive fisherman. A little later, however, the farmer, instead of making his own plow, hired a blacksmith to make it, paying the blacksmith money for his work. Here we have the same combination of labor and frugality as in the other cases, the difference being that in the making of the plow the blacksmith does the laboring and the farmer exercises the frugality. With the money which he paid for the plow he could have bought consumers' goods and had immediate enjoyment. He postponed that enjoyment when he paid the money to the blacksmith and received the plow. In the then distant future, however, the plow added to his income and enabled him to make up for the loss of opportunity for immediate consumption, and thus compensated him for the postponement which he underwent when he purchased the plow.

The modern farmer, however, instead of hiring the blacksmith to make the plow, usually buys his plow ready made. So far as he is concerned, the act of frugality is the same as though he deliberately hired the blacksmith to make it. He surrenders a certain amount of ready cash with which he might have bought consumers' goods; he receives the plow, which for a period of years will add to his income and therefore compensate him. In the making of the plow, however, there were other tools used, as well as labor. Those other tools had been made in much the same way as the plow. Someone had invested money in them and then hired other labor to use those tools in the making of the plow. It has become, therefore, a very complicated process; but anyone who will analyze the process will find always the same two factors involved: namely, waiting and working, — the postponement of consumption, on the one hand, and labor, on the other. No capital can ever come into existence without this combination. It is merely obscured by the

intricacies of the modern industrial process, and it requires a little more intelligence and study to see clearly where and how the frugality and the labor are combined.

Separation of the functions of working and waiting. In the highly complicated industrial system of the present, with its increase of specialization, the two functions of waiting and working are generally performed by different persons or classes of persons. This has given rise to some of the most intricate and most difficult of our social problems. In a simpler state, in which the same individual exercised both functions, no social or class antagonisms were developed. Even in the intermediate stage, when the farmer bought his plow from the blacksmith and then used it himself, and the blacksmith bought his own tools and used them himself, we find both functions performed by the same individuals. Class antagonisms could hardly develop under these conditions. But when, as in the modern industrial system, the capitalist lives mainly from the income of his capital, and the laborer mainly from the wages of labor (in other words, when the two functions are sharply separated), class feeling and class antagonism have developed. It has come about in our urban industries that the average person who performs manual labor receives his wages in weekly installments and spends them mainly for consumers' goods, whereas the very tools with which he works are owned by other men who have specialized in the function of investing their money in capital; that is, in tools and equipment.

Separation of the function of the laborer and the capitalist. Capital has existed, of course, as long as tools and equipment have existed, but this separation of the two functions, that of the laborer and that of the capitalist, has become general only since the rise of machine production. Before that time the function of the capitalist was not important enough to create an opportunity for many men to live exclusively by the performance of this function. Not enough capital was needed in the primitive forms of industry which preceded the present,

to enable a large number of men to live on its earnings. It is this fact which is probably meant when it is erroneously stated that capital in the modern sense came into existence with the rise of machinery. Capital in the modern sense does not differ from capital in the former or capital in the ancient sense; it differs only in the sense that there is more of it and more needed. This combination of facts — the fact that there is more needed than ever before and that there is more of it supplied than ever before — has created what we call the capitalist class in modern industry, and that is a matter of the very greatest importance.

Coördinating labor which is performed at different times. In a somewhat special but very important sense we may say that the function of capital is to aid in production by coördinating labor which is performed at different times. In the chapter on The Division of Labor it was pointed out that there are two distinct forms of the division of labor; namely, the contemporaneous and the successive. Under our modern industrial system the successive division of labor has been greatly lengthened out. In some cases many years elapse between the beginning of a process and the final completion of the production of a consumable article. There is a striking analogy between the lengthening out of the successive division of labor and the widening out of the contemporaneous division of labor. The latter has been brought about through improved means of communication and transportation. It is literally true at the present time that thousands of miles or even half the earth's circumference may separate men who are working for the production of the same article. The coördination of labor performed at such widely separated points of space is one of the most important and striking aspects of the modern industrial system. It is, however, no more important or striking than the similar coördination which has taken place between labor performed at widely separated points of time.

There are various ways in which this coördination of labor performed at different times may be presented to the mind. In a primitive state of industry each unit of labor was performed by men working with few and simple tools. The tools may be said to represent labor performed in previous times. When the worker uses tools, his work in the present time is coördinated with the work of the man who made the tools. But since the tools were very few and simple, it would be correct to say that a given unit of present labor is being coördinated with a very small amount of past labor. Under modern conditions the average laborer is using more tools, as well as larger and more complicated tools, than were used by the primitive laborer. These large and complicated tools, like the primitive tools, represent labor performed at a previous time. The labor of the workmen using them is literally being coördinated with the labor of the men who made the tools. Since the tools are so numerous, large, and complicated, it is correct to say that a given unit of present labor is being coördinated with a large amount of past labor.

One of the fundamental changes which have come about as a result of the modern system of machine production is that of coördinating a given quantity of present labor with a much larger amount of past labor than was the case under simpler conditions. That is to say, in a simple state of industry a given quantity of present labor would work in coördination with a small amount of past labor. At the present time, however, a given quantity of present labor is found to be working in coördination with a large quantity of past labor.

The coördination of labor performed at different points in space does not take place of its own accord. It is done through agencies of transportation and communication. Similarly, the coördination of labor performed at different points of time does not take place of itself; it takes place because of the willingness of men to wait, to spend their money for producers' goods rather than for consumers' goods. If no one

were willing to wait, if no one were willing to postpone consumption, if everyone insisted on living from hand to mouth as the spendthrift does, there could be no effective coördination of labor performed at different times.

Lengthening the process of production. In order that there may be tools, mines must be opened and ore extracted. No one wants ore for its own sake; it is desired because it is a means of getting something in the distant future which will be desirable for its own sake. Ore must therefore be smelted and purified into iron and steel. Again, no one wants iron and steel for their own sakes, but solely because in the distant future these commodities will be the means of getting things that are desirable in themselves. Again, iron and steel must be made into tools. But no one wants tools for their own sakes. Tools are wanted only as they will help to produce things desirable for their own sakes. It is this constant looking ahead and taking thought for the future, accompanied by the postponing of present consumption in favor of future consumption, that makes possible the coördination of labor performed at different times.

Combination of factors. Something more than frugality, thrift, and foresight are necessary, however. Without mechanical ingenuity, however frugal, thrifty, and forethoughtful a person might be, he would find it difficult to exercise these qualities profitably. Unless someone were able to invent superior methods of production which required the exercise of those qualities, they would be of comparatively little economic advantage to those who possess them.

Here we have an example of a class of cases which continually perplex the amateur student of economics. There are cases where two or more factors are absolutely necessary to get a given result. Fundamentally the problem is no more obscure than that involved in the formula $2 \times 3 = 6$. The students will agree that 2 is just as essential as 3, and 3 as essential as 2, in getting 6. Other problems of a similar kind

are found in every field of science as well as in arithmetic. Oxygen and hydrogen are equally necessary to the formation of water; air and gasoline must be mixed in the carburetor in order that there may be an explosion in the gasoline engine. One is as essential as the other. The upper and the nether millstone must work together in the old-fashioned mill to grind wheat. Two sets of rollers are necessary in the modern flour mill.

In the higher realms of economics we find numerous examples of the same type of problem. Forethought and inventiveness are examples of mental qualities which are combined to secure mechanical progress. However inventive men may be in contriving mechanical improvements, unless someone is willing to perform labor long in advance of the consumption of the products of these mechanical improvements, or pay someone else for performing that labor, all these mechanical contrivances will remain either in the brains of the inventors or in museums.

When one has spent his money for iron ore, or for tools of any kind, one has become a capitalist. He has bought something of no immediate use to him as a consumer, but something which is a means by which in the future he may get consumers' goods. Because there are, in any community, men who are willing to do this, there is a market for the genius of the inventor. Similarly, because inventors will devise mechanical appliances and improvements, there is opportunity for the investor to become a capitalist, — a buyer of tools and contrivances.

These two functions, that of the inventor and that of the investor, are absolutely necessary, whatever the type of social organization may be. Even in a communistic society the work of the inventor amounts to nothing unless the society as a whole undertakes what, in the present order of society, the individual capitalist undertakes; namely, to set men to work at making tools, and to pay them wages while they are about it. One important difference between socialism and individualism is this: socialism proposes that society as a whole shall do precisely what in an individualistic society the capitalist does as an individual.

The productivity of capital. There are some extreme socialists who deny that the capitalist performs any necessary function. If that were true, it would be hard to frame an argument to show that society as a whole should do precisely what the capitalist is doing. The socialist would then have to admit that the capitalist, instead of performing a useless function, performs a most important one, — so important that society as a whole should take it over. To say that society should do its own investing is to say that it should become its own capitalist. This would present a question to be debated. The question might be stated as follows: Can the useful function of coördinating labor performed at different times be done more economically and satisfactorily by the state, or by the society as a whole, than by private individuals? Or the question might be put in this way: What forms of investment and ownership should be undertaken by society as a whole, and what should be left to private individuals? Only extremists would refuse to discuss this question. There are, however, some who are so very extreme as to deny that the state or society should do any investing or own any capital. Others go to the opposite extreme by denying that the individual should do any investing or own any capital. Wisdom probably lies somewhere between the two extremes. The real difference, therefore, between the reasonable individualist and the reasonable socialist is one of degree. The reasonable individualist will maintain that, in the absence of a special or convincing reason to the contrary, the individual should be allowed to invest and to own capital, and that the case must be proved against him before he is forbidden to do so. The reasonable socialist, on the other hand, holds that the presumption is in favor of public and against private ownership of capital, — that unless special and convincing reason to the contrary is shown, the public and not private individuals should own capital. He places the burden of proof on the one who wishes to own private capital.

CHAPTER XIV

THE ORGANIZATION OF BUSINESS

Large capital necessary. The growth of machine production has made necessary such large aggregations of capital as to require the combined accumulations of numbers of men. In comparatively few cases does a single individual possess enough capital to equip a modern factory, railroad, steamship company, mine, or even a large mercantile house. Were it not possible to combine the capital of a number of individuals, large-scale production would be the privilege of only a few very wealthy men.

Methods of combining capital. There are three distinct methods of combining capital. One is known as the partnership, another is the corporation, or joint-stock company, and the third is the coöperative society. The partnership is a mere combination of two or more individuals in the ownership and management of a given business, in which each partner is fully responsible for the acts and liabilities of the group. The partnership is merely an enlargement of the individual. The individual who owns and operates his own business is of course fully responsible for all debts and obligations, and, subject to bankruptcy and homestead laws, all his property may be taken in payment of any obligation incurred in the business. Where two or more men join together in a partnership, each partner is responsible in the same sense and to the same extent as he would be if he were the sole owner.

Difficulties of partnership. Obviously a partnership on these terms is possible only among men who are very intimately acquainted with one another and who have complete confidence in one another. Since each partner is fully responsible for the acts of every other, it would be extremely hazardous, not to

say foolhardy, for anyone to form a partnership with an individual with whom he was not intimately acquainted and concerning whose honesty and solvency he had the slightest suspicion. Incompetent or dishonest partners have caused the financial ruin of many an otherwise sound and capable business man.

The corporation. The modern expansion of business would hardly have been possible without some form of organization which would permit the association of larger numbers of men than are possible under a partnership. This has given rise to the corporation, or the joint-stock company. The distinguishing difference between the corporation and the partnership lies in what is known as limited liability. In a corporation the liability of each shareholder is strictly limited. The corporation may become bankrupt, but the individual members or shareholders can be called upon only for definite sums to make good the debts of the corporation. In the ordinary case, each individual puts a certain sum of money into the fund. This may be lost, but he cannot be called upon for additional sums to make good further losses. In other cases, such as our national banks, the shareholder may not only lose what he has put into the fund but may be assessed an equal amount in addition. This is sometimes called double liability.

Suppose, for example, it were considered necessary to have $100,000 of capital with which to start a business. This capital may be divided into a thousand shares of $100 each. (A larger number of shares of smaller denomination or a smaller number of larger denomination may, of course, be decided upon.) These shares are represented by bits of printed paper which serve as evidence to show that the money has been put into the fund. A thousand different individuals may buy one share each or a smaller number may each buy a different number of shares. For each $100 which any individual puts in, he receives one of these bits of paper, which come to be called shares or stock certificates or some other such name. After the shares are all sold, there is the fund

of $100,000 in money available for starting the business. The general rule is that each contributor shall have a vote for each share which he has purchased. It would therefore be possible for one individual to own more than half the shares, provided he had invested more than $50,000 in the enterprise. Owning more than half the shares, he could always cast the majority vote and control the corporation, electing himself and his particular friends to all the offices, and virtually controlling the business. In some cases, however, such a concentration of ownership is not permitted.

Limited liability. Only the officers of the corporation are empowered to act for the corporation; the individual shareholder who is not an officer has no power to obligate the corporation in any way. One therefore does not need to scrutinize the solvency or the character of his fellow shareholders as closely as would be necessary in a partnership. Again, the individual shareholder has no responsibility for the acts of the corporation beyond that which has already been indicated; that is, if the business fails, the affairs of the corporation may be wound up, but he can lose only the sum which he originally subscribed, or, in the case of double liability, that sum plus an equal sum.

Some weaknesses of the corporation. This device of the joint-stock company with limited liability has made possible the aggregation of vast sums of capital, running up into millions and hundreds of millions of dollars, for the purpose of carrying on great business enterprises. Individuals who never saw or heard of one another, living in different parts of the country, sometimes in different parts of the world, may own shares in the same corporation, having contributed their capital to the joint fund for the carrying on of the business. This has been one of the great factors in building up all modern enterprise. It is almost as important as some of the great mechanical inventions. But, like all great inventions, it carries with it certain difficulties. For example, it has made

individual enterprise a practical impossibility, except in those cases where small-scale production is as efficient as large-scale production. On the other hand, it has given individuals with only small sums of capital to invest the opportunity to participate in the profits of large-scale production. In the latter sense it has been a democratic institution. The fact, however, that individuals vote in proportion to the number of shares which they own has tended to destroy some of the democracy and, in some cases at least, to put the management of the corporation into the hands of a plutocratic oligarchy; that is, a few large shareholders, who control the majority of the stock, can always control the corporation, sometimes to the disadvantage of the small shareholders, who can never cast a majority vote. Various limitations upon the voting power have been proposed and introduced for the purpose of curbing the rapacity of the large shareholders. In spite of these, however, many a fortune has been built up through the machinations of large shareholders and the robbing of small shareholders.

Multiplied power and divided responsibility. Another disadvantage of the corporation is found in its impersonal character. A decade or so ago the social psychologists were engaged with the problem of the mob mind. Before the analysis was carried very far, it was discovered that the mob mind did not present any special mystery as distinct from the individual mind. The mob thinks and acts precisely as any of its individuals would think or act were his power greatly increased and his sense of responsibility greatly diminished. That is precisely what the presence of numbers does for the individual when they are all moved by a common impulse; it gives him a sense of power proportionate to the numbers, and at the same time the very fact of numbers diminishes his own sense of responsibility. That is why the mob is so like a monster, for the difference between a man and a monster is precisely that, — the monster feels a sense of power and does not feel a sense of responsibility.

Something of the same kind exists in the case of an industrial corporation. There also you have the circumstance of increased power combined with diminished responsibility. The sense of power comes not so much from the presence of numbers, as in the case of the mob, as from the larger fund of competitive capital which is brought together. The diminished sense of responsibility comes partly from the mere fact of numbers (no individual member of the corporation feels the full responsibility for the acts of the whole), partly from the impersonal character of the conduct of the corporation, and partly from the limited-liability feature of most of the charters. Most of the evils of corporation practice grow out of this simple situation, and the remedy must be applied at this point. The sense of responsibility must be made commensurate with the sense of power.

This is to be accomplished, not by reducing the powers of corporations so much as by increasing the sense of responsibility of its individual members. If they can be made to feel the same responsibility for the acts of the corporation which they feel for their individual acts, the corporation problem as such will be solved; and it will be solved in no other way. This means the frank adoption of the maxim that crime is always personal, and that corporate law-breaking is to be dealt with in precisely the same way as individual law-breaking.

Size a matter of importance. In fact, it may be necessary to go even farther and enforce stricter responsibility upon members of corporations, particularly the larger corporations, than we do upon individuals. If the principle we have laid down is sound, it furnishes no support to the view that the mere bigness of a corporation is not a matter for the law to take into account. From our point of view, bigness is an important factor in the problem; for the bigger the corporation, the greater its power and the less the sense of responsibility on the part of each member. That situation alone calls more and more for strict regulation and enforcement of responsibility, the

bigger the corporation becomes. Its increased power is a good thing, provided that power be used productively and not acquisitively; but there is no certainty that it will be used productively unless subjected to the strictest control.

This does not mean that large corporations have worse dispositions than small, or that their members are meaner men than the members of small corporations. It only means that the disproportion between power and responsibility increases with the size of the corporation.

As a homely illustration let us take the common house cat, whose diminutive size makes her a safe inmate of our household in spite of her playful disposition and her liking for animal food. If, without the slightest change of character or disposition, she were suddenly enlarged to the dimensions of a tiger, we should at least want her to be muzzled and to have her claws trimmed; whereas if she were to assume the dimensions of a mastodon, I doubt if any of us would want to live in the same house with her. And it would be useless to argue that her nature had not changed, that she was just as amiable as ever, and no more carnivorous than she always had been. Nor would it convince us to be told that her productivity had greatly increased and that she could now catch more mice in a minute than she formerly could in a week. We should be afraid lest, in a playful mood, she might set a paw upon us, to the detriment of our epidermis, or that in her large-scale mouse-catching she might not always discriminate between us and mice.

Stratification of society. There is another problem, not strictly a corporation problem, but a social problem growing out of the prevalence of the corporate form of industrial organization. That is the problem of the widening gap between employers and employed, or, more strictly, between capitalists and laborers. It may be laid down as a general social law that anything which separates people into sharply distinguishable groups, whether it be a geographical boundary, a

racial difference, a difference of religious creeds, or a class distinction, will produce, between the groups thus separated, first ignorance of one another, then suspicion growing out of that ignorance, then misunderstanding growing out of that ignorance and suspicion, and finally open warfare whenever a pretext is found; whereas anything which bridges over these gaps, or brings people together regularly and normally, creates first knowledge of one another, then confidence instead of suspicion, then understanding instead of misunderstanding, and finally lasting peace because no difficulty seems large enough to serve as a pretext for war.

Now the joint-stock form of organization, though a most effective industrial device, has had at least one serious social result: it has widened somewhat the gap which would otherwise have existed between the employing group and the employed group. When employers are known by their personality and can come in some kind of personal or direct contact with employees, and when, therefore, employer and employee know something about one another, there can be no such degree of suspicion of one another as now exists; where ignorance disappears, suspicion tends to disappear also. But when employers stand as the shareholders of a corporation in a purely impersonal relation to employees, when the average employer or shareholder knows nothing personal about the employees of the corporation, and the employees know absolutely nothing personal about the shareholding employers, there is on either side of the line about as great a degree of ignorance of those on the other side as can be found anywhere in modern social life.

Widening the gap between social classes. That gap which separates the two groups is made so wide as to produce very much the same result as is produced by a difference of color between races or a difference of religion between too sharply contrasted religious groups. Such a state of things has never failed in the history of the world to produce suspicion, jealousy,

misunderstanding, and, on the slightest pretext, open hostility; and, so far as we are able to see into the future, there is not the slightest ground for hoping that such a condition ever will fail to produce these same undesirable results. In other words, we need not hope for social peace or for any cessation of the conflict of classes until that chasm is in some way bridged over or made to disappear.

This result can hardly be achieved by doing away with joint-stock corporations; they are too effective as industrial devices to make such a program tolerable; but if we are ever to have anything resembling social peace, some way must be found to bring the employing classes and the employed into personal relationships one with another. The ideal is undoubtedly that of having the workers in our industrial establishments become also the owners of the stock of the corporation. If that result could possibly be achieved, there would be an end of the present phase of warfare.

How this is to be achieved is another question. It will never be achieved until our corporation laws and our judicial procedure relating to corporations are made efficient enough to make it a safe venture for a man of small means to buy a share in an industrial corporation. So long as these things are so inefficient as to enable large shareholders and rings to freeze out the small shareholders, or in any way to make it hazardous for a man of small means, such as the average workingman, to invest in a share, it will never be accomplished. This looks like a legal problem rather than a legislative problem, and it is for the legal fraternity and the courts to solve. If they will not solve it, or if they ultimately prove unable to solve it, it may be necessary to reform our courts. Many discriminating persons are beginning to believe that the judicial branch of our government, instead of being the most efficient, is less efficient even than the legislative or the executive.

The trust. It is important that we distinguish between the corporation, as we have just described it, and the *trust*, or

combine. The corporation is an organization of individuals who put their capital together in order to carry on a business which requires more capital than is likely to be possessed by any one of them. The trust, or combine, is mainly an organization of corporations (though it may also include a few individual capitalists), for the purpose of controlling the market. While such organizations are to be distinguished sharply from corporations as such, nevertheless they could scarcely have come into existence if the corporation had not preceded them and prepared the way. They may therefore be called extreme developments of the corporation idea, though not necessary developments. As to these extreme developments of the corporation principle, it is becoming more and more apparent that their power for evil lies wholly in their power of controlling and manipulating prices. If that power could be taken out of their hands, we should then have nothing to fear from them.

Control of prices. If they could not succeed and survive in competition through their power over prices, they could then succeed only through their power of production. If they should then survive, the mere fact of their survival would prove their fitness to survive. This has been pointed out many times by scholars; but the practical politicians, with their unerring instinct for the wrong way, have ignored it and have been trying various hard and useless methods of dealing with the problem. Eventually, after having tried every possible way of going wrong, we shall apply the simple and direct remedy of government control of prices wherever a monopoly exists.

It is not necessary to indulge in any sentimental rhapsodies on the subject of the people and their control over affairs of this kind. Government affairs are controlled by politicians, and politicians are no more interested in the people than are the trust magnates themselves. The choice is a hard one. But where competition fails to regulate prices, these prices are going to be fixed arbitrarily by someone. In the absence of government control they are fixed by the trust operators

alone. Where there is government control, they are fixed by the joint action of the politicians and the trust operators. Their interests are not the same, and, as the result of their pulling and hauling, prices will not be fixed quite so completely in the interest of the trusts, but more in the interest of the trusts and the politicians. Since the people can control the trusts after a fashion by refusing to buy of them, and the politicians after a fashion by refusing to vote for them, it will happen that through this double control the interests of the people will be somewhat better safeguarded than they are now.

Incidentally this would destroy most of the trusts. No trust exists by virtue of its superior productive powers. Every one depends for its existence upon its superiority in buying or selling; that is, upon its power over prices. Take away this power and enable the outside concerns to match their productivity against that of the trust, and outside competition will increase and force the trust to break up into its most efficient *productive* units, as distinguished from the most efficient bargaining units.

The coöperative society. It has often been proposed to substitute a radically different form of business organization for the corporation, or joint-stock company. This is known as the coöperative society. In a sense the corporation itself is coöperative, but it differs from the coöperative society in two fundamental characters:

In the first place, the corporation involves coöperation among the owners, whereas the coöperative society involves coöperation among the workers. In the chapter on Capital we saw that the rise of modern industrial conditions had brought about a sharp separation of owners and workers. In the original form of manufacturing (that is, the small shop, where the workman owned the shop and the tools) we had the function of ownership and of labor combined in the same individual. With the rise of the factory system these two functions were separated. The corporation represents the organization of owners, and maintains the separation of owners

from workers. The coöperative society, on the other hand, represents an association of workers. Under the corporation, ownership and management go together; under the coöperative society, labor and management go together.

In the second place, in a corporation, as we have seen, the various individuals who contribute capital vote in proportion to the number of shares which they own. In a coöperative society each individual has one vote, regardless of the number of shares which he owns or the amount of capital which he has put in. One man, one vote is the rule here, whereas one share, one vote is the rule of the corporation. It is inaccurate, however, to say that capital votes in a corporation. Only men vote, and a man may vote once for each share which he owns, or he may vote once and once only, regardless of the number of his shares. As to the comparative merits of these two forms of organization, the opinion of the world is somewhat divided. It must be admitted that the corporation has had much the larger growth, though in recent years the coöperative society has been gaining ground rapidly.

Comparative merits of the corporation and the coöperative society. It is the opinion of the present writer that the question will always be decided on rather definite economic grounds. Where the difficult problem is that of getting sufficient capital, he who supplies the capital must be placated; that is to say, where everything else is easily obtainable, where there are always plenty of laborers seeking employment, plenty of raw material to be had, and buyers ready to buy the finished product, but where the limiting factor is capital and the puzzling thing is to know where to get capital, favorable terms must be offered to the capitalist and he must be allowed to have his way, or the capital cannot be secured. In the early stages of manufacturing expansion, capital was the limiting factor.

The limiting factor will dominate. Now and then conditions arise under which capital is not the limiting factor. Among farmers, for example, where a creamery is needed, it is never

very difficult to raise capital enough to equip the creamery; the difficulty is to get business; that is, to get the farmers to produce the milk and sell the cream to the creamery. In these cases the producer of milk must be placated and persuaded to join the organization. He must therefore be given control. This gives rise to what is known as the coöperative creamery, in which the producing farmers own the plant, direct its management, and share in its profits. Such a creamery, however, is coöperative only in a special sense. The men who work in the creamery are employed as other laborers would be employed in a privately owned factory of any kind. A coöperative store is likewise dependent upon custom. It is easier to get capital and to hire clerks and salesmen than it is to induce people to trade at the store. Therefore the patrons of the store must be placated and given control. The great coöperative societies, as pointed out in the chapter on Competition, have been societies where coöperative buying and selling was substituted for competitive buying and selling. That is, they have been mercantile societies. They do not represent coöperation among producers or among the workers in the stores and factories, for the workers in the stores and factories are hired on the same terms as workers in the privately owned or corporation owned stores and factories.

There are a few cases of real coöperation, but they are not very conspicuous. The only real coöperation is coöperation among workers, where the men who do the work in a factory manage it themselves or direct its management and furnish or hire the capital. This form of coöperation has not yet proved very successful, mainly because labor has seldom been the limiting factor. It is generally so easy to get labor that the laborer does not have to be placated and given much control. When the time comes, as it probably will, when labor is scarce and hard to find, — when it is necessary to placate the laborer rather than the capitalist or the purchaser of finished products, — then we may expect that this form of coöperation

will gain ground. If the laborer has to be placated in order to induce him to work in an establishment, he will be given more and more control over it.

Control by the indispensable person. Generally speaking, the indispensable man, whether he be the one who furnishes capital, the one who furnishes raw material (as in the case of the coöperative creamery), the one who buys the finished product (as in the case of the coöperative store), or the one who supplies the labor (as in the case of the true coöperative society), is in so strong a position that he can dictate terms to all the others. When the laborer becomes so indispensable, that is, so scarce and hard to find that the average business enterprise must wait on his will, he will be in so strong a position that he can dictate terms to all the others who participate in the enterprise. He will then, without resort to force, really direct its management on a purely voluntary and contractual basis. There is not a very good prospect for coöperation among laborers under any other conditions. There is a strong probability that, with the rapid accumulation of capital (especially if habits of frugality and saving are encouraged) and with the growing scarcity of labor (especially if wise immigration laws are passed and a high standard of living among laborers is encouraged), there will come a time when capital will be almost superfluous because of its great abundance, and every individual laborer will become almost indispensable because of the scarcity of labor. Then we must expect that capital will lose the power to direct the management of industries and will take the position of a hireling. The laborer will then gain control and assume the position of the master.

CHAPTER XV

THE BALANCING OF THE FACTORS OF PRODUCTION

Balanced rations, fertilizers, etc. Every farmer nowadays is familiar with the idea of a balanced ration for his live stock and a balanced fertilizer for his soil. Students of human dietetics are also familiar with the idea of a balanced ration for man. By a balanced ration is meant one which contains the different food elements in the proportion in which the body needs them. By a balanced fertilizer is meant a fertilizer which contains the different elements of plant food in the proportion in which plants need them. Sometimes, however, a balanced fertilizer may mean a fertilizer which will balance up the soil and put into it the elements of plant food which it lacks, in order that it may possess those elements in the proportion in which plants need them. Thus, a soil that is rich in nitrogen but deficient in potash would need a fertilizer that was particularly rich in potash. Not long ago the writer was at the home of a professor of agriculture in one of our leading agricultural colleges. The grass was growing up between the bricks in the sidewalk in front of the agriculturist's house. As a demonstration he was using fertilizer to kill the grass. It was excellent fertilizer, and in the proper relation it would have made the grass grow more luxuriantly. He simply put on too much. The result of this bad balance was to kill the grass. In addition to those elements of plant food which ordinarily go into the fertilizer, moisture and other factors are required. If there is too much of one and too little of another factor, plants will not grow. Everyone is familiar with the fact that on swampy land plants will not grow because there is too much water, and that on desert land they will not grow because there is too little.

Balanced ingredients. All these facts are mentioned to make it perfectly clear to the student that in almost any line of production the question of the balance of the factors of production is a very important one. All the factors may be present, but if they are not in the right proportions, production will be reduced or even destroyed. This is true not only of the elements of plant and animal growth, which are agents of production, but of tools, implements, raw materials, and other things which enter into a mechanical industry. In the manufacture of old-fashioned gunpowder, for example, charcoal, saltpeter, and sulphur were required, and they had to be combined in fairly definite proportions. If it happened that there was more charcoal on the market than would combine with the limited supply of one of the other ingredients, say saltpeter, the production of gunpowder was limited by the small supply of saltpeter and not by the supply of charcoal. Only as much gunpowder could be manufactured as the small supply of saltpeter would permit. In the making of old-fashioned mortar, lime and sand were required. Too much of either one or too little of the other would spoil the mortar. If in any given situation there should happen to be a scarcity of sand, very little lime could be used, because only as much mortar could be made as the limited supply of sand would permit. Again, however abundant both lime and sand might be for the making of mortar, if brick and stone were scarce, very little mortar could be used, and there would therefore be very little productive demand for sand and lime.

Balanced agents of production. This principle applies not only to the raw materials which are used in various lines of production, but to the active agents themselves, such as labor. However numerous the hodcarriers might be, if there were a great scarcity of brick and stone masons, not many hodcarriers could be used. The farmer who had plenty of land and tools, but no horses, oxen, or tractors, would not be able to use either his land or his tools effectively. If he could not raise the money in any other way, it would pay him to sell some of his tools or

some of his land and buy horses, in order to restore the balance. At bottom this is much the same problem as that of balancing rations or fertilizers. Again, however much land he might possess, if he lacked equipment, his farm would not be very productive. It would pay him, if he could not raise the money in any other way, to sell some of his land in order to buy equipment of various kinds. Some of our frontier farmers found themselves in possession of a soil which was very rich in plant food. They lacked, however, other forms of capital, or the money wherewith to purchase building materials, machinery, live stock, etc. Many of them virtually sold their surplus soil; that is, they grew such crops as they could, sold them off, and took no pains to replace the fertility which was used up in the growing of the crops. They are said to have "mined the soil"; that is to say, as the miner extracts his mineral and puts nothing back, so many of these frontier farmers extracted plant food and put nothing back. Whatever may be said of this from the point of view of national policy, it was, under the circumstances, undoubtedly good business from the point of view of the farmer. He was trying to balance up his establishment. Having an abundance of plant food in his soil, but very little of anything else, he found it to his advantage to sell some of his plant food in order to put up houses, barns, and fences and purchase machinery and live stock. He was doing virtually the same thing that another farmer would do who found himself in the possession of a large number of horses and no plows or harrows to which to hitch his teams. It would pay him to sell off some of his horses and buy enough equipment to make the remaining horses productive.

A balanced nation. This principle of balancing up the factors of production is just as important for the nation as a whole as it is for the individual farmer or manufacturer. The country which possesses a surplus of land and a scarcity of labor will find that its land is very ineffectively used. What it needs is more labor. It cannot very well sell its land, but it will in all

probability pursue a policy which will increase its labor supply. Labor under such conditions will be in great demand, and for the same reason that, in dietetics, protein will be in great demand if it is scarce while the other food elements are abundant. In such a community land is certain to be cheap and labor dear. The high price of labor, the ease with which men can establish themselves on the land as independent farmers, or get remunerative work, encourages early marriages and large families. This is especially true on the farms, where labor is scarce and land abundant. Every additional child is money in the farmer's pocket, because as soon as the child is old enough to work he helps to solve the ever-present problem of scarcity of labor. Immigration is also likely to be encouraged by such a country. And thus from two sources the labor supply is increased in response to the effort to balance up the factors of production.

But tools and equipment of all kinds, which are generally included under the word *capital*, are almost, though not quite, as essential as either labor or land. If capital is scarce while one or both of the other factors are abundant, it will be in great demand, for the same reason that labor is in great demand where it is scarce and land abundant, or that water is in great demand where there is an abundance of land with all the elements of chemical fertility, but a scarcity of water. An overpopulated country, on the other hand, finds itself with a badly balanced industrial system, but the balance is in this case disturbed in the opposite direction. Land being the scarce factor, every acre that can possibly be used is of the utmost importance. Labor, on the other hand, is cheap. It can easily be spared. If it sees fit to migrate to other countries, no great effort is made to prevent it, and no high price is offered it as a reward for staying at home. Under such circumstances, to hold an acre of land out of use would seriously reduce the total production of the community.

Balanced capital. As on the farm or in the factory we saw that different kinds of tools have to be combined, so we should

find that different kinds of capital, or tools, have to be combined in the nation at large. If, for any reason, the country should find an oversupply of one class of tools, say agricultural implements, and an undersupply of another class of tools, say railroads and rolling stock, the productive power of the whole nation would be limited by the deficiency of transportation facilities. However much might be produced with the agricultural implements, if it could not be transported to market, it would be of little use. This would be a case of badly balanced national capital. The result would be that the industrial system, if it were a good system, would find some way to restore the balance. It would be poor economy, under such circumstances, to increase the production of agricultural machinery. That would add very little to the total producing power of the nation. If something could be added to the transportation facilities, that would add considerably to the productive power of the nation. Under a well-organized industrial system the readjustment takes place automatically. Farm implements become cheap. Farmers do not care to buy any more, and the manufacturers are discouraged from production. Railroad-building, however, is stimulated by the high earnings of the existing railroads, and the productive energy of the community is diverted from the manufacture of agricultural implements to the building of railroads and the manufacture of railroad equipment.

If we reverse the supposition, of course we get the opposite results, but the same principles will be at work. If we should find an overabundance of railroad facilities and a scarcity of agricultural implements, then it would be to the interest of the country to have more agricultural implements. If the existing transportation facilities could easily carry all that the farms produce, and more too, little would be added to the national product by building more railroads, and much could be added by manufacturing more farm equipment and increasing the growth of crops. The low earnings of railroads and the increased demand for farm machinery would tend to divert the productive

power of the nation from railroad-building to the manufacture of farm implements and the use of them on the farms.

This principle is of universal application, and thousands of illustrations could be multiplied if it were necessary. If we apply it to the railroads themselves, we find it working in the utmost detail. When a railway system does not have rolling stock enough to utilize its tracks, its capital is badly balanced, and naturally the thing to do is to get more rolling stock and more freight, in order to utilize the trackage advantageously. In other cases the road may find itself with more rolling stock and more business than can be done effectively on its existing trackage. It must then begin adding to its trackage rather than to its rolling stock, in order to restore the balance.

The fundamental problem of scientific management. The fundamental problem of all management, whether it be the management of a diet kitchen, a farmer's feeding lot, a farm as a whole, a factory, a railroad, or a nation, is the problem of balancing the factors of production. The problem of managing the nation is commonly called the problem of statesmanship, and the fundamental problem of all statesmanship is that of balancing the factors of national life. To have so much productive power as to tempt barbarians from the outside to invade and rob, and so little military defense as to be unable to repel barbaric invasions, is to invite national disaster. On the other hand, to maintain so large a fighting machine as to interfere seriously with the work of production is also bad statesmanship, because it preserves a bad balance of the factors of national life and prosperity. To encourage immigration and the multiplication of numbers beyond the point necessary to utilize the land effectively also produces an unbalanced situation. To discourage immigration or the multiplication of numbers to such an extent as to leave the land inadequately utilized is equally bad.

A balanced population. The greatest danger of all, however, and the one which, apparently, is least appreciated by some of our statesmen, is that of producing a badly balanced population.

At the beginning of this chapter the question of the balancing of the hodcarriers and the brick and stone masons was mentioned. This may be taken as typical of the necessity of balancing skilled labor and unskilled labor. To have more unskilled labor than can be used effectively with the limited supply of skilled labor is quite as bad as to have more people than can be supported on the land, or fewer people than are necessary to utilize the land. To have more manual labor than will effectively combine with mental labor, to have more mental laborers who are capable of doing only routine work than will combine effectively with those mental laborers who possess originality, inventiveness, and the power of leadership is also to produce a bad balance.

Probably the most important of all problems of statesmanship, and at the same time one of the most difficult, is that of balancing up the population so that no particular class of labor is either oversupplied or undersupplied with respect to any other class. One method of preserving the balance is by education and vocational guidance. Training men for the occupations where men are needed, as evidenced by the high wages and salaries paid, is one of the quickest and most effective ways of preserving the balance. Whenever any occupation is so undermanned as to make it difficult to find workers, wages or salaries will tend to rise. This increase in remuneration is then a standing invitation to young men to prepare themselves for that work, and a properly conducted education system is a standing opportunity to young people to prepare themselves to accept the invitation.

Differential rates of multiplication. A wholesome moral life would also be a powerful agency working in the same direction. Those who have demonstrated that they are needed by the fact that they can fill good positions for which there is a demand, and for which high wages and salaries are offered, are the ones who ought to reproduce their kind most abundantly. Unfortunately, in most modern communities, they are the very

people who multiply least rapidly. On the other hand, those who have demonstrated that they are more or less superfluous because they can do only a kind of work which is oversupplied, and who therefore find difficulty in getting work at all, and can earn only low wages when they do get it, ought, from the standpoint of a balanced population, to multiply least rapidly. Unfortunately they are frequently the very people who multiply most rapidly. This differential rate of multiplication helps to perpetuate a badly balanced population in spite of all the efforts of all the schools toward an occupational redistribution of population and a restoration of the balance.

Geographical redistribution of population. That more land is better for a growing population than less land is the theory on which a great deal of the history of the world has been constructed. The migrations of peoples in search of more land is one of the large aspects of human history. There could be no possible object in seeking more land, instead of remaining content with the land in the possession of the people, were it not for the fact of diminishing returns. Therefore a very discriminating writer[1] has stated the opinion that the law of decreasing returns is the fundamental fact of human history. The effort of a growing population to acquire more land is, from the standpoint of the present chapter, merely an effort to restore the balance between factors of production. In any given state of civilization too dense a population, that is, too much labor and too little land, works to the disadvantage of the people. When they begin to perceive that they would be better off if they had more land, nothing except the strong military guard or a Chinese wall will prevent emigration.

Migration of capital. But capital follows the same law as population. In a community where the land and labor are not properly balanced up with an adequate supply of capital, the perception of a need for more capital, that is, tools and

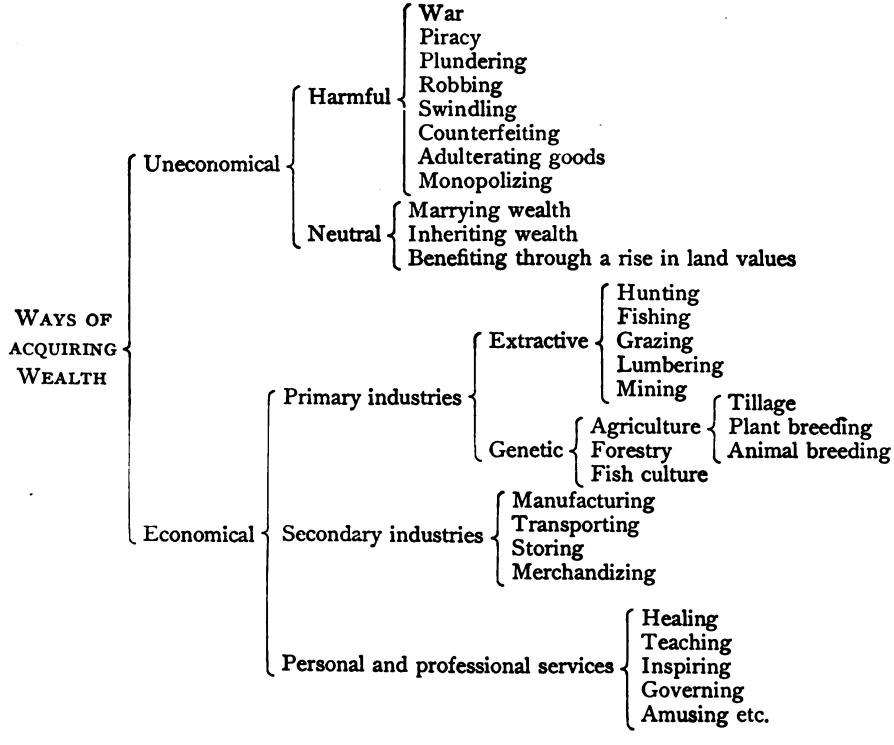
[1] Edward Van Dyke Robinson, "War and Economics," *Political Science Quarterly*, Vol. XV, pp. 581–622.

equipment, is likely to be pretty clear and definite. This leads to the offer of high rates of interest as an inducement to capital to migrate from other communities where it is abundant in order to supply those communities where it is scarce. The possibility of using each and every unit of capital advantageously is what enables borrowers to pay the high rate of interest. The scarcity of capital relatively to other factors is what creates the opportunity for advantageous use of capital. The formula, "More capital, more product; less capital, less product," is appreciated with peculiar vividness. This appreciation leads to active bidding for capital, and this to the offer of high rates of interest. The fortunate individual who can gain possession of an additional fund of capital, being able to increase his product considerably, finds it economical to pay a high rate of interest for it. If he owns his own capital, whereas his competitors in production lack capital, he will have a great advantage over them and will therefore secure a large income. According to our analysis in the chapter on The Source of Interest, this additional income which he gets from the use of his own capital is interest as truly as the income which he gets from lending his capital to someone else.

SECTION B

THE PRODUCTIVE INDUSTRIES

The chief methods by which the productive forces are made to work for our advantage


WAYS OF ACQUIRING WEALTH
Uneconomical
Harmful
War
Piracy
Plundering
Robbing
Swindling
Counterfeiting
Adulterating goods
Monopolizing
Neutral
Marrying wealth
Inheriting wealth
Benefiting through a rise in land values
Economical
Primary industries
Extractive
Hunting
Fishing
Grazing
Lumbering
Mining
Genetic
Agriculture
Tillage
Plant breeding
Animal breeding
Forestry
Fish culture
Secondary industries
Manufacturing
Transporting
Storing
Merchandizing
Personal and professional services
Healing
Teaching
Inspiring
Governing
Amusing etc.

CHAPTER XVI

THE EXTRACTIVE INDUSTRIES

Ways of acquiring wealth. In the diagram on the preceding page the ways of acquiring wealth are divided into two main classes, the uneconomical and the economical. From the social or national point of view it is uneconomical to have men acquiring wealth by methods which do not add to the total wealth or well-being of the society or the nation. When one man gains something by plundering, swindling, counterfeiting, or monopolizing, someone else loses a like amount, and nothing is added to the total. In fact, if these harmful methods become general, it is likely to discourage honest industry and actually diminish the total production of wealth. Even the neutral methods may become harmful if they result in wasted lives; that is, if they enable men and women who would otherwise be productive and useful to live in idleness and luxury. The smaller the proportion of the people who live by means of the uneconomical methods, the more prosperous the nation is likely to become.

By the economical ways of acquiring wealth are meant all those ways by which an individual contributes to the wealth of the whole community as much as he gets. He may make his contribution by laboring either to produce commodities or to render direct service to some of his fellow men. In either case, where he gives honest service for honest pay he is enriching someone else in proportion as he is himself enriched. A nation in which this rule prevails universally, where everyone is contributing to the well-being of someone else in exact proportion as he himself prospers, has at least one of the conditions of general prosperity. If each one is capable and well trained,

so that he can give efficient service, that is, if he contributes largely to the prosperity and well-being of someone else, then everyone is prosperous, which is the same as saying that the nation as a whole is prosperous.

Economical ways of getting wealth. The economical ways of getting a living are subdivided into three classes: first, the primary industries; second, the secondary industries; and, third, professional and personal service. The primary industries are those which produce commodities directly from their original and natural source, — which take material as nature provides it and appropriate it to some human use or change it from a form which is nonusable to a form which is either usable or one stage nearer to usableness. For example, the elements which produce plant growth are not, in their natural state, available for human use. The farming industry converts these elements into something which is either usable, as in the case of fruits and vegetables, or at least one stage on its way toward usableness, as in the case of grain or live stock. The mining industry brings the crude ore, which is not usable, into a condition where it is either usable or at least one stage nearer usability. The secondary industries are those which take the products of the primary industries which are in need of further modification and carry them through the remaining stages on their way to final usability. The iron ore, for example, must be worked over many times before it becomes an automobile or the blade of a pocketknife. The coal must sometimes be transported long distances before it can warm our houses. The farmer's grain, besides being transported long distances from places where there is a surplus to other places where there is a shortage, must also be stored from threshing time until it is needed by the consumers; and it must be ground into flour and baked into bread or manufactured into some other form of food before it is ready for use.

Personal and professional services include all lines of work which do not directly produce salable commodities. Lawyers,

doctors, preachers, teachers, actors, barbers, and even policemen and congressmen, besides multitudes of others, are performing professional and personal services. Their labor has sometimes been called unproductive labor, merely on the ground that it does not produce vendible commodities. Though the writers who apply that term to them do not mean to cast any reflection upon them, always being careful to state that unproductive does not mean useless, nevertheless it seems better to avoid the use of a term which is so easily misunderstood. The important distinction is not that between productive and unproductive labor, but between the economical and uneconomical ways of acquiring wealth. Even though the labor of the policeman does not directly produce a commodity, as the labor of a shoemaker does, for example, nevertheless the shoemaker and every other honest worker is helped to work better by the law and order which a good police system helps support. They are also helped by the physician, the teacher, and others who labor in the field of direct professional service. There is an ancient story of some musicians who formed a part of a captured army. They requested that they be set free by their captors, on the ground that they had not taken part in the fighting. The captors replied, "By your music you inspired others to fight; therefore you must be treated as though you were yourselves fighters." By a similar line of reasoning it could be said that if musicians inspire others to work, they are themselves workers and are contributing their part toward the national prosperity.

The primary industries. The primary industries are themselves subdivided into two classes, the extractive and the genetic. Extractive industries are those which merely appropriate natural objects, without any attempt to replace what is taken or to keep up and increase the supply. The genetic industries, which might almost be called creative, are those primary industries which make a conscious effort to replace that which is taken, and to increase the supply. Thus, hunting wild animals and grazing domesticated animals on free ranges are extractive,

whereas tillage and stock breeding are genetic. Lumbering or cutting timber in a natural forest is extractive, whereas forestry, the scientific growing of timber, is genetic. Fishing in unstocked waters is extractive, whereas fish culture is genetic. Mining is extractive. There does not seem to be any genetic industry which bears the same relation to it as fish culture bears to fishing, or forestry to lumbering.

Hunting. Of all industries hunting is the most primitive. It was sometimes combined with fishing as a means of subsistence. It usually included the search for edible fruits, nuts, and vegetables, as well as the killing of animals; and it sometimes even degenerated into a man hunt; that is, the hunting, killing, and robbing of men. Where animals constituted the most abundant source of food, primitive men quite naturally hunted animals. Where fruits, nuts, and edible roots were abundant, it was not uncommon for the search for these foods to become the chief occupation. The hunting of animals led naturally to domestication and herding, and the search for fruits and herbs led quite as naturally to horticulture as the next stage in industrial development. Our own primitive ancestors seem to have been hunters, and later herdsmen, before they took up agriculture. The North American Indians lived mainly by hunting animals, though they had taken to the cultivation of crops on a small scale. They seem not to have domesticated any animal except the dog, before the coming of the white man. This direct passage from hunting to tillage, without an intermediate stage of herding, is considered somewhat exceptional. The ancient Peruvians had domesticated the llama and the alpaca. The ancient Mexicans had become horticulturists apparently without having been herdsmen at all; their primitive hunting seems to have consisted mainly in searching for fruits and herbs rather than for animals.

Hunting, which includes trapping, has played an important part, and still plays an appreciable part, in our national economy. The abundance of game on our western frontiers, when we had

a frontier, was an important source of food for the advance army of settlers. The emigrants who crossed the great plains in the early settlement of the Pacific coast also benefited to a certain extent from the herds of buffalo, deer, elk, and antelope which at one time abounded. More important, however, was the regular business of trapping fur-bearing animals and of trading with the Indians for the skins and furs which they collected. A great deal of the history of our frontier, beginning with the first settlements on the Atlantic coast and continuing across the continent, has been a history of the fur trade. Relatively to her size and her other industries, the fur trade has been even more important in Canada than in the United States. Great companies such as the Hudson Bay Company and the Northwest Company of Merchants of Canada were organized, which, especially during the eighteenth and early nineteenth century, swayed the destinies of that country and parts of our own Northwest. They maintained numerous trading posts and employed thousands of men, who explored every nook and corner of the territory over which they operated. Similar though smaller companies were formed within the United States, to trade with our own Indians. Many of our Western pioneers, guides, and scouts, of whom Kit Carson was the most famous, began their careers as hunters and trappers for these various companies. The story of their adventures adds a romantic element to the early history of our Far West, but they were making their living by gathering furs to supply the demands of commerce.

After the building of the transcontinental railroads across the great Western plains a rich harvest of buffalo skins was reaped for a few brief years. The lamentable result was that the buffaloes, or bison, as they are more properly named, which had roamed in countless numbers over those plains, were almost exterminated in the two decades from 1870 to 1890. It is doubtful if such a slaughter of noble animals ever took place before in the history of the world.

As the country has become settled, fur-bearing animals, as well as other wild animals whose skins form articles of commerce, have tended to grow scarcer, though no such wholesale destruction has overtaken any of the others (except the beaver) as that which overtook the buffalo. Most of them are small enough to find cover and sustenance for small numbers in the woods and fields of settled communities. Therefore hunting and trapping still supply a small fraction of our national income. The most valuable of all our inland fur-bearing animals, the beaver, has almost disappeared, along with the buffalo; but minks, muskrats, raccoons, opossums, skunks, foxes, and coyotes are still found in small numbers. The subarctic regions of Northern Canada and Alaska still yield considerable harvests of furs, while the seals which congregate in the Bering Sea, if adequately protected, may prove a valuable national asset.

Fishing. While hunting, as a source of national wealth, tends to decline in importance as the country develops, fishing seems to increase. One reason for the decline of hunting is the simple fact that land becomes too valuable for other purposes to be allowed to remain in its wild state as a refuge or feeding ground for wild animals. When it is turned to other purposes, most of them must of necessity disappear. The same is apparently true of many inland streams which once furnished small quantities of fish. But the larger lakes, and especially the oceans, furnish an almost inexhaustible supply of excellent food. As population and the demand for food increase, the harvest of the sea assumes a more and more important part in our national economy. According to the last estimate of the Federal Census there were in the United States, including Alaska, 7347 vessels engaged in the fishing industry; 166,343 persons were employed, and the total value of the product was $75,029,973. The total value of the fisheries of the world is estimated at something over $480,000,000.

We have as yet scarcely begun to realize the possibilities of this harvest of the sea. Practically every fish which lives in

these northern waters is good for food if properly prepared. Every decade we are discovering that some variety which has formerly been rejected is quite as good as any that we have hitherto prized. Thus far we have chosen only a few of the many varieties with which the sea abounds.

Pasturage. It would be impossible to estimate how much the civilized races of the north temperate zone owe to such domestic animals as the horse, the ass, the cow, the sheep, the goat, and the pig. All these animals have, at one time or another, furnished food for man. The horse, the ox, and the ass have furnished that which has played almost as important a part as food in man's conquest of nature, — namely, power. Before steam and electricity had been harnessed, or water power developed, these animals were almost the only sources of power besides human muscles. The skins of all were and are still utilized, there being no very good substitute for leather even to this day. The cow and the goat have furnished, and still furnish, milk, one of our most important articles of diet. The wool of the sheep is even now, next to cotton, the most important material for the manufacture of clothing.

In their native state all these animals except the pig lived almost exclusively upon grass, either green or dried in the form of hay, and they still depend mainly upon it. Even the pig, with his omnivorous appetite and his accommodating stomach, will thrive on grass as his chief article of diet, though he needs some more concentrated food in addition if he is to make his best growth. Grass and grazing have therefore played a very important part in the economic life of that branch of the human race from which we are derived. Our ancestors were already herdsmen before they emerged from prehistoric darkness. All the animals now under domestication, and all the fowls except the turkey, were domesticated so long ago that we have no record as to where or when it occurred. It may give us a new respect for those prehistoric ancestors of ours

when we reflect that we have never succeeded in thoroughly domesticating any animal since we have had a history, though we may soon succeed with the zebra. There has never been a period, of which we have any record, from the earliest times to the present, when our branch of the human race did not depend for its subsistence largely upon the grazing animals. During the greater part of our historic life our domestic animals grazed on wild or native grasses. Feeding them upon cultivated grasses and grains will be discussed under Agriculture.

Grazing on our western frontier. From the earliest settlements in the territory now occupied by the United States, grazing has been an important industry. Following closely in the wake of the hunters, trappers, and fur traders, and in advance of the farmers, have gone the herdsmen. The wild grasses furnished a ready source of income to the man who possessed animals capable of turning them into salable products. The frontier settlements in colonial New England possessed large herds of cattle, and down to 1820 beef was one of the principal exports. Hogs ran wild in the woods, and, living as they did on roots and mast, they furnished an abundant supply of meat. Horses were exported in considerable numbers. After the danger from wolves was reduced, sheep were grown in large numbers. In Virginia and the Carolinas grazing developed even more rapidly. The cattlemen had their brands registered, they organized round-ups, and they carried on the business very much as it was carried on in the Far West in the seventies and eighties of the last century.

The herdsmen continued to move westward in advance of the more permanent settlements, but the farmers who plowed the land and harvested crops kept many animals to graze upon the native grasses which still flourished upon the unbroken lands. Before the building of the railroads great herds of cattle, sheep, and hogs were driven sometimes hundreds of miles to market in the cities of the Atlantic coast. A hog

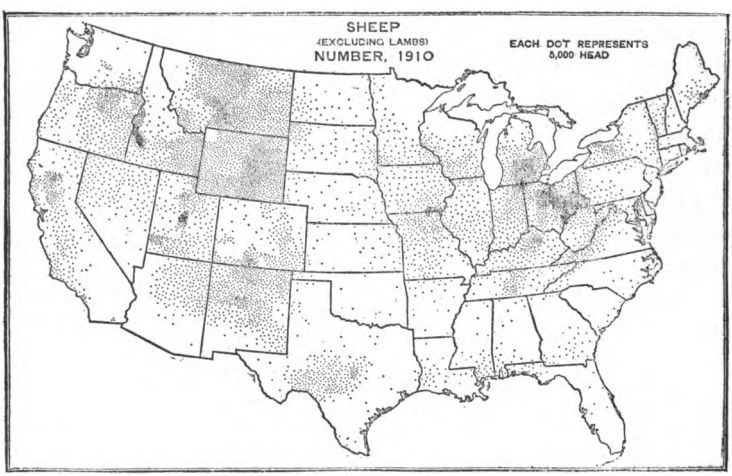
which could not transport itself to market was not of much value; consequently not much attention was given to the breeding of the short-legged, barrel-shaped hog of the present day. The cattle, likewise, were built more for traveling than for meat. The oxen of that period, which were preferred to horses for heavy farm work, were well adapted to that purpose.

When the advance waves of settlement reached the great prairies of the West, the grazing industry entered a new phase. Those natural meadows of vast extent furnished a much more abundant pasturage than had the great forest which extended almost unbroken from the Atlantic coast to western Ohio in the central part of the country, and to the Mississippi River and beyond on the north and south. Goats and asses had never figured largely among the domestic animals of this country, but horses, cattle, sheep, and hogs had multiplied rapidly. On these Western prairies, the former home of countless herds of buffalo, deer, elk, and antelope, all of which were grazing animals, cattle and sheep were very economically produced, and would have been enormously profitable had not the prices of beef, mutton, and wool fallen so low as barely to cover the low cost of production. Dwellers in Eastern cities enjoyed abnormally cheap meat and continued to do so until the very end of the nineteenth century; since that time meat prices have been gradually approaching a normal level again.

The Texas cattle trail. After the close of the Civil War the grazing industry entered still another phase. Vast herds of cattle, brought by the early Spanish settlers, had long roamed the plains of Mexico and Texas. After Texas entered the United States, the grazing industry developed rapidly under the energetic management of American cattlemen. Texas cattle began to enter the markets of the North and East. The Civil War put a stop to this for a time. At the close of the war the Texas ranges were swarming with cattle. They soon began to move northward in search of more pasture as well as of better markets. This drift northward followed, in the main, the western

edge of the settlements, and the route came to be known as the Texas Cattle Trail. As settlements extended westward the trail necessarily moved westward also.

By this time the northern ranges were all west of the Mississippi River and were soon confined to the Great Plains. Farming on these plains was slow in development, because of the insufficient rainfall. Therefore the tide of westward settlement was so retarded as to permit a considerable development of what came to be called cattle ranching. The grazing

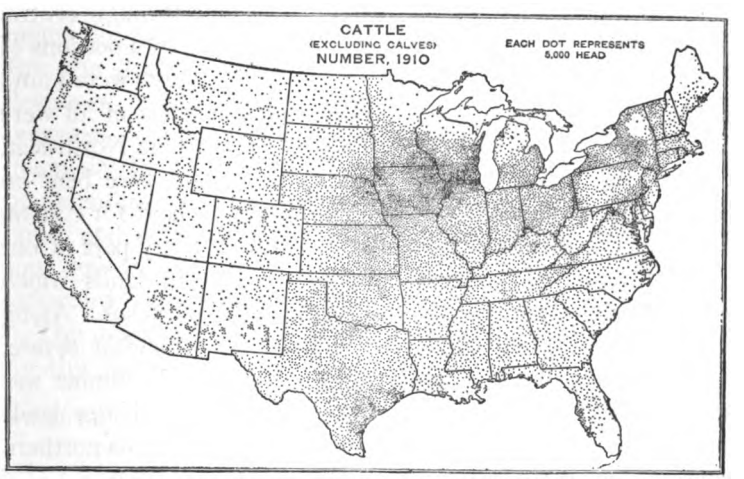


Distribution of Sheep in the United States

industry was given more time in which to develop systematically. It was less transitory than it had been on the rapidly moving frontier of earlier times. It still survives over considerable areas of the arid West, that is, west of the one hundred and second meridian, though it is gradually becoming more restricted through the gradual settlement of the better lands by farmers. Nearly half the beef cattle and more than half the sheep of the United States are grown on these ranges, though many of the animals raised there are afterwards fattened in what is known as the corn belt; that is, the country in which

Indian corn is the leading crop. This belt extends from Ohio westward beyond the Missouri River, roughly to the ninety-eighth meridian. Considerable numbers of horses are also grown on these ranges, but most of them are grown on the farms farther east. Goats also have increased on some of the southwestern ranges, though they have never played a very important rôle in our national economy.

Lumbering. Next to grass the most valuable natural product of the soil is timber. It might occupy first place if the value of



Distribution of Cattle in the United States

the native timber standing at a given time were compared with the value of the native grass standing at the same time. The proper basis of comparison, however, is the annual growth of the two products on soil equally good for either. Though this is sometimes called the age of steel, wood is still an important and almost indispensable material.

The first settlers on our Atlantic seaboard found a dense and apparently limitless forest extending from the coast westward. It was not until well into the nineteenth century that the advance guard of the army of western migration began to

emerge from this forest onto the great prairies of the West. Timber was so abundant as scarcely to be considered an economic good. Certainly the settlers had little occasion to economize it. The best of it they used rather lavishly; the rest they destroyed in order that they might use the land for things which they needed more than they needed timber. Along the northern tier of states the great forest extended as far west as Minnesota. In the middle strip the prairies began in parts of northern Indiana. Farther south the forest followed the Ohio valley to the Mississippi, and extended beyond through central and southern Missouri, Arkansas, and Louisiana into portions of eastern Kansas, Oklahoma, and Texas. Other forests were found in the high mountains of the West, but the finest of all were found in the region of Puget Sound in our extreme Northwest.

After the first onslaught of the settlers, who were bent on getting rid of the timber in order to clear the land for cultivation, lumbering became a regular business in every part of our forested area. Its greatest development was in lands which were not the most valuable for agricultural purposes. Along our northern border, where the climate was somewhat severe, and where the soil was rather light and sandy, the timber was not destroyed in order to clear the land, because better lands were available farther south. When the timber of this northern strip came to have a commercial value, it became the scene of lumbering on a large scale. Large companies were formed, thousands of men were employed, and great fortunes were made. Lumbering in this region, particularly along the Great Lakes and the upper tributaries of the Mississippi River, that is, in the states of Michigan, Wisconsin, and Minnesota, where water transportation was cheap, developed rapidly during the latter half of the nineteenth century and then declined rapidly. A similar development took place in the southern states. Here the greatest activity was along the southern coast, just outside of the cotton belt; that is, on land which was not cleared primarily for the purpose of growing cotton, but where the

timber was left standing until it had acquired a commercial value through the increased demand and the improvement of transportation facilities. The most valuable timber tree of this belt was the yellow pine, as the white pine had been of the northern belt.

Lumbering, however, has by no means been confined to these two belts. Much timber of various kinds and qualities is cut every year in every state in the Union, though naturally it is less in the prairie states than in the states which were originally forested. In the older states some of the timber lands have been cut over several times since the first settlement and will doubtless yield many harvests in the future. But the greater part of our original virgin forest has been destroyed. Such cut-over lands as are not suitable for other purposes, or not needed immediately for agriculture, will undoubtedly be allowed to reforest themselves or be reforested by scientific methods, but it is safe to say that the days of cheap and abundant timber in this country are past. From this time forward careful conservation will be necessary in order to safeguard an adequate supply.

The magnitude of the lumber industry of the United States for the years 1899–1913 is shown by the following table:[1]

NUMBER OF ACTIVE MILLS REPORTING AND QUANTITY OF LUMBER, 1899–1913

Year	Number of Active Mills reporting	Lumber (Quantity M Feet B.M.)	Year	Number of Active Mills reporting	Lumber (Quantity M Feet B.M.)
1913	21,668[2]	38,387,009	1908	31,231	33,224,369
1912	29,648	39,158,414	1907	28,850	40,256,154
1911	28,107	37,003,207	1906	22,393	37,550,736
1910	31,934	40,018,282	1904	18,277	34,135,139
1909	48,112	44,509,761	1899	31,833	35,084,166

[1] *Bulletin No. 232*, United States Department of Agriculture. Washington, 1915.

[2] In 1913 the number of active mills included only those cutting lumber, while the figures for the other years include mills cutting laths and shingles as well as lumber.

In addition, much timber is cut for local use on farms, both for firewood and for mechanical purposes.

Mining. The greatest of all our extractive industries is mining. Within the boundaries of the United States is found a wealth and variety of minerals such as no other country is known to possess, though no one knows what new discoveries may yet be made in this and other lands.

Notable among our mineral products are the following. The values given are for the year 1915.

Coal	Bituminous	$502,037,688
	Anthracite	184,653,498
Iron	Ore	101,288,984
	Pig	401,409,604
Copper		242,902,000
Petroleum		179,462,890
Natural gas		101,312,381
Gold		101,035,700

Silver, lead, zinc, aluminum, cement, building stone, lime, and salt are also valuable products, besides many others of less value. Our total mineral production for the year 1915 aggregated more than two and a third billions of dollars.

Since minerals are not reproduced or replaced when once extracted from the earth, it is only a question of time before all of our rich deposits will be exhausted. In some cases the deposits are so enormous as to remove the time of their exhaustion so far into the future that it is difficult for us to realize that it is coming. Authorities agree that our coal deposits will last for many hundreds of years, some say many thousands of years. A thousand years seems a long time to an individual, but it is not so very long in the life of a nation. If, however, we have enough coal to last, let us say, for only a thousand years, it is a difficult question to decide to what extent that should give us concern for the future welfare of our country. It is easy to laugh and say that it need not concern us, for we shall not be here to suffer inconvenience. It is also easy

to become too much alarmed; with the progress of invention we may find other sources of heat and power before our coal is gone. Probably our best policy is merely to avoid unreasonable waste or destruction of mineral resources, and then leave future generations to work out their own problems. Wisdom will not die with us of the present generation.

Instability of the extractive industries. All our extractive industries have not only added greatly to our material wealth; they have likewise given rise to picturesque but somewhat unstable phases of our social life. The early hunters and trappers were a hardy, adventurous race, whose deeds and prowess have become a part of our national history. Our herdsmen likewise, especially those who developed the cattle business on the Great Plains, supplied an element of romance and adventure which still appeals to the imagination of our people. Our hardy fishermen and whalers have given splendid examples of the courage and strenuosity which can wrest a living from the unconquerable ocean. Our lumber camps and our mining camps have attracted adventurous and unstable characters from the ends of the earth, and furnished much excellent material for the story-writers. But instability is a characteristic of these industries, and consequently of the life which grew up around them. Stability can only be supplied to our national life by industries which are themselves self-perpetuating. The genetic industries must supply that need.

CHAPTER XVII

THE GENETIC INDUSTRIES

What are the genetic industries? By the genetic industries are meant those in which men make conscious and systematic efforts to direct the biological processes of reproduction so as to increase the supply of desirable plants and animals. The greatest of these is agriculture, which includes both the cultivation of plants and the breeding of animals. Forestry and fish culture are also included under the head of genetic industries. Agriculture, however, is sometimes carried on in such a slipshod manner as scarcely to deserve to be classed as a genetic industry. When farmers make no effort to preserve the fertility of their soil, but exhaust it by wasteful methods of tillage and by reckless overcropping, and then move on to new and unexhausted areas, their business is sometimes called mining the soil. A genuinely genetic type of agriculture can endure and even improve for indefinite periods of time on the same soil; that is, it not only preserves but improves the fertility of the soil, generation after generation, for hundreds and thousands of years. It thus makes possible a stable, an enduring, and an expanding civilization such as could not be supported exclusively by any of the extractive industries.

Demand of all outdoor industries for space. All of those industries which appropriate or increase the products of the soil, such as hunting, grazing, lumbering, forestry, and farming, have one characteristic in common. They all require a great deal of space as compared with mining and the secondary industries, such as manufacturing and merchandizing. So great is this demand for space on the part of those industries which gather in or develop the products of the soil, that those

who engage in them must of necessity spread themselves over wide areas in proportion to their population. They are compelled by the nature of their industries to live in scattered homes or in small villages located far apart. They are therefore called "rural," that is, "field," or "open space," industries, and those who engage in them are called "rural," "field," and "open space" people. Living so far apart, with plenty of room, in close contact with nature but in little contact with other men because of the distances between them, produces a profound reaction upon their lives and characters. Perhaps it would be more accurate to say that those who engage in the indoor industries are so cramped for space, and have so few contacts with nature and so many contacts with one another, that a profound and artificial change is produced in their lives. By the indoor industries are meant all those which, in contrast to the field industries, require so little space that they can be walled in and roofed over. It is sometimes difficult for indoor and outdoor people to understand one another.

We have seen in the last chapter that the utilization of the soil, not only on our own frontier but also in the development of civilized life among our remote ancestors, passed through several distinct stages, such as the hunting stage, the grazing stage, and the agricultural stage. These are progressive stages in the economizing of space. It takes a great deal more territory to support a given population by hunting than by grazing, and by grazing than by agriculture. When game grew scarce, or when population increased, those who had the wisdom to make the change were forced into grazing, and again into tillage, in order to increase their means of subsistence. What an uneconomical use of land hunting was may be inferred from the fact that there were never, according to the best authorities, more than one million Indians within the boundaries of the present United States. This territory now supports approximately a hundred times that number of people, and supports them more comfortably than the Indians were supported.

Each Indian tribe was forced to guard its hunting grounds, lest they be invaded by hunters from other tribes and the source of its subsistence cut off.

Tillage. Tillage consists essentially of three processes: first, preparing a good seed bed, in which plants can grow more vigorously than in natural, or unprepared, soil; second, planting in this prepared seed bed the seeds of such plants as are deemed most useful or desirable; and, third, destroying all other plants, commonly called weeds, which may start to grow in the seed bed in competition with the plants whose seeds were planted.

Scientific agriculture. While tillage consists essentially of these three processes, scientific agriculture includes many things besides. We need to be on our guard, however, against a pedantic use of the word *scientific* as applied to agriculture. Scientific agriculture is nothing more nor less than the most economical and effective use of all the factors of agricultural production. Specifically it consists mainly, though not exclusively, in economizing, first, the plant food in the soil; second, space; third, labor; and, fourth, capital or equipment. Economizing plant food means getting as large a product as possible without depleting the supply of plant food. Economizing space means getting as large a product as possible from a given area; that is, as large a product per acre as possible. Economizing labor means getting as large a product per unit of labor, or per man, as possible. Economizing capital or equipment means getting as large a product per unit of capital or equipment as possible.

Excessive economy of any one of these factors always involves a certain amount of waste with respect to some of the others. For example, it is quite possible to economize space to such an extent as to exhaust plant food, and vice versa. That is to say, a farmer may try for a period of years to get so much from each acre as eventually to deplete the fertility of his soil. By a judicious rotation of crops, and the keeping of live stock, he may preserve the fertility of his soil for indefinite periods of

time, but this may not give him the maximum product per acre in the present. If there is one crop that yields better than any other, a short-sighted farmer is tempted to grow that single crop, since it would give him a larger product per acre; but such continuous cropping tends to exhaust his soil. Rotating tends to preserve the fertility of the soil, but gives less per acre in the present; this frequently means growing some crops which are not so profitable in the immediate present as the main crop.

The law of diminishing returns. A similar conflict arises between the economy of space and the economy of labor. It is possible to try to grow so much per acre as to reduce the product per man or per unit of labor. It is this phase of the question of economy that is commonly known as the law of diminishing returns from land. This law is simply that, after a certain amount of labor with the appropriate tools has been applied to the cultivation of a given crop on a given piece of land, further applications of labor do not yield proportional returns. They may increase the crop slightly, thus increasing the yield per acre, but they will not increase the crop in proportion as the labor is increased. The result is a decrease in proportion to the number of units of labor.[1]

This principle may be illustrated by means of the following table, which purports to show how much corn, in a hypothetical case, could be produced upon a ten-acre field by using different quantities of labor and tools, the quantities being expressed in terms of days' labor of a man and team with appropriate tools. The ratio between the product and the labor is shown in the third column, which states the number of bushels produced per day's labor.

On a field such as we have assumed, it would be possible, by using fifty days' labor, to get sixty-five bushels per acre, which would be more economical of space than to put twenty-five

[1] See the author's chapter on Diminishing Returns in his volume, "The Distribution of Wealth." The Macmillan Company, New York, 1914.

days on it and get only forty-five bushels per acre. It would be less economical of labor, however, since by using only twenty-five days' labor the farmer gets eighteen bushels for each day, whereas he gets only thirteen bushels for each day when he applies fifty days' labor to its cultivation. Just how to balance the two factors, land and labor, so as to get the best results from both, is a very nice problem in farm management. If labor is cheap and land is dear, it is more important to economize space than labor; but if labor is dear and land is cheap, the opposite is better.

Day's Labor of a Man and Team with Appropriate Tools	Total Yields in Bushels	Bushels per Day's Labor		Bushels per Acre
1	0	0		0
5	50	10	Increasing returns	5
10	150	15		15
15	270	18		27
20	380	19		38
25	450	18	Diminishing returns	45
30	510	17		51
35	560	16		56
40	600	15		60
45	630	14		63
50	650	13		65

The great law of productivity. This law of diminishing returns has been called the great law of agricultural production. It is a part of a wider law which may be called the law of variable proportions, which is the fundamental law of all production. This larger law will be discussed in a later chapter devoted to that subject.[1] For the present it is sufficient to point out that it presents the problem of balancing the different factors which have to be combined in production. It is much the same problem at bottom, whether it be the balancing of the different elements of plant food in fertilizers, the different

[1] See Chapter XXX.

elements of animal food in the feeding of cattle, the balancing of such factors as labor, land, and capital in running a farm or a factory, or the balancing of the different kinds of people that are required to make up a nation.

The largest industry. Agriculture is not merely one of the basic, or primary, industries; it is the most important of all industries, if we consider the world at large or any large section of it which is compelled to live within itself. Considerable sections of country and considerable masses of population may live primarily by the indoor industries, sending out their surplus produce to distant lands and bringing back in exchange the products of the soil. Thus, a country like England, or considerable portions of our own country, such as southern New England, may become largely urbanized; that is to say, the greater portion of the people may engage in indoor rather than in outdoor industries. But they live by selling the products of their indoor industries to people far beyond their own boundaries, and bringing in from the ends of the earth the products of the soil. Even the United States as a whole is tending to become an urbanized nation; that is, it is tending toward a condition where more than half of her people will work indoors rather than outdoors. Again, there is a tendency even in the world at large for the indoor industries to gain somewhat in importance as compared with the outdoor industries, though it is unlikely that the former will ever actually overtake the latter.

Why agriculture is losing ground. As civilization advances, people tend to demand finer and finer products for consumption. Usually, though not in every case, producing a finer product means doing more work in the finer, or finishing, stages. It takes no more wool or cotton, and therefore it takes no more agricultural labor, to make fine than coarse clothing. The difference is mainly in the amount of work which is put upon the material after it leaves the farm. In other words, of the total work put upon material, a smaller

proportion is outdoor labor, and a larger proportion is indoor labor, in the case of fine clothes than in that of coarse clothes. The same principle applies to shoes, furniture, vehicles, and many articles of food. Throughout the whole civilized world this increase in the proportion of labor performed indoors as compared with that performed outdoors tends to increase the city population more rapidly than the rural population.

Another and more important fact is the increased use of agricultural machinery. Fewer men are now needed in the actual cultivation of the land, as some of the work is done in the factories where farm machinery is made. Whereas all the men who formerly helped in the harvesting of a wheat crop actually worked in the field, now some of them work in the shops and factories making harvesting machinery, and only a part of the total number actually work in the fields. The same change has taken place with respect to many other kinds of farm work.

Influence of occupation on character. Of all the leading occupations in civilized countries, there is only one in which success depends primarily upon the ability to deal efficiently with nature and natural forces, — that is, farming. In most of the others success depends quite as much on ability to deal with other men as on ability to deal with nature. Those whose success depends primarily upon the ability to deal with other men, whether it be to please, persuade, or amuse them, or to wheedle the money out of their pocketbooks, must necessarily become expert in those arts of expression and deportment which are pleasing to other men. Those, on the other hand, whose success depends primarily upon their ability to deal with nature must become equally expert in the art of dealing with nature, — that is, in handling materials and directing natural forces. It is not surprising, therefore, that these two classes of experts, having so little in common, should sometimes fail to understand and appreciate one another. A farmer, particularly the old-fashioned, self-sufficing farmer, who had few points

of contact with other men but many points of contact with nature, would naturally acquire less of what are sometimes called the social graces, less adroitness in the amenities of polite society, less expertness in indoor etiquette, than one whose business or professional success depended upon these forms of skill. They who get their living out of the soil must know the soil, the weather, the times and seasons, and everything that will affect their success, whereas they who get their living by dealing with other men must know the ways of men.

Commercial agriculture. The characteristics which farmers of an earlier day developed naturally and almost of necessity are becoming less prominent as the nature of agriculture changes. Self-sufficing agriculture has become a thing of the past, and we are developing what may be called commercial agriculture; that is, a system of agriculture in which the farmer is a buyer and seller, a dealer with other men, to almost the same extent as a city business man. He must now understand not only markets but political and social conditions, even those delicate psychological factors upon which successful buying and selling depend. This is tending to wipe out whatever distinctions formerly existed between the dwellers in the city and the dwellers in the country.

The independence and dependence of the farmer. We are hearing constantly reiterated, especially by advocates of the back-to-the-land movement, that the farmer is the most independent person in the world. The farmer himself does not always see it that way. Probably no one is so dependent upon outward physical conditions as the farmer. He must continually watch the weather and guard against pests of all sorts, animal diseases, predatory animals, and even town marauders. Every year lightning, hail, wind, and floods destroy crops in some part of the country. When the farmer thinks of all his troubles, he is very likely to long for the comparative safety and independence of the indoor worker. On the other hand, the indoor worker is constantly harassed by troubles of human origin,

political elections, commercial crises, changes of fashion, the organization of predatory trusts and monopolies, labor troubles, the type of advertiser who levies something akin to blackmail. When he thinks of all his troubles, he is very likely to long for the comparative safety and independence of the farmer.

One important characteristic of agricultural industry is its dependence upon the seasons. The indoor worker is frequently able to continue uninterruptedly in one kind of work, week after week, month after month, and year after year. From the very nature of the case this is impossible in agriculture, for every crop has its growing season and its time of harvest. On every farm almost every hour of the day has its own special work to be done, so that work is continually changing, not simply from season to season, from month to month, and from week to week, but even from hour to hour. This makes agriculture almost of necessity an industry of small units. In an indoor industry, where a man can be kept at the same job continuously, mechanical or automatic administrative methods and devices may be installed, so as to simplify the work of superintendence. It is possible, therefore, for a man of very moderate intellect and power to run an establishment employing thousands of men. To run ten men efficiently on a farm, where each man must be assigned a new job frequently on a moment's notice, where the whole work of the farm must be reorganized to meet a situation brought about by the change in the weather or in the conditions of some growing crop, requires as great mental ability as to run an indoor establishment employing hundreds of men. To run a farm employing one hundred men, and run it efficiently, would require the ability of a great military commander, a merchant prince, a captain of industry, or a university president. Very few farming establishments which employ as many as one hundred men have ever succeeded or can succeed.

Country people generally self-employed. Perhaps the most important fact concerning agriculture is that a very large proportion of those engaged in it are self-employed, whereas

the vast majority of those who live in cities are employed by other people. The fact that farming is an industry of small units, while indoor industries are generally industries of large units, produces this difference.

Some of the deepest students of political and social tendencies have come to doubt whether democracy can ever develop to a high stage of efficiency except among people who are in the main self-employed. It is true that modern democracy arose first in the cities and towns, but it is likewise true that at that time the cities and towns were the homes of self-employed men. Before the rise of the factory system such manufacturing as was done was carried on in small shops by craftsmen who were in the majority of cases self-employed. The rural districts, however, were under the feudal system. Conditions are exactly reversed at the present time. Under the factory system the great majority of people in the indoor industries work under bosses. Since the break-up of the feudal system and the rise of the one-family farm, which is the characteristic farm in this country, the average dweller in the country is his own boss. This may have something to do with the fact that city politics is run by bosses and country politics is not.

According to the census of 1850 there was one farm in this country for every fourteen persons living under rural conditions; that is, outside of cities of eight thousand inhabitants or more. According to the census of 1900 there was one farm for every nine persons in rural residence. This shows that, up to 1900 at any rate, the tendency was toward a larger number of independently operated farms in proportion to the rural population. Again, in 1900 there was one farm of fifty acres or more for every 13.4 rural dwellers. When we consider that towns and villages of eight thousand or less contain a fair proportion of those 13.4 people, we shall see that in the open country itself there are very few people engaged in work on each farm. They are nearly all what are called one-family farms; that is, farms operated mainly by the labor power of one family.

Interdependence of the sexes. The division of labor between the sexes is much more marked, of course, in agriculture than in indoor industries. There are so many operations on every farm which require the superior muscularity of the male as practically to shut women out. At the same time, the fact that the farms are so far apart makes it impossible for these muscular males to get along without women to run their houses. The men cannot live in boarding houses, because that would make it necessary to live too far from their work. Practically every farmer has to have a wife to do the indoor work. This may not be the highest motive for marrying, but still it does encourage the marriage habit. Consequently one finds in our rural districts fewer old, unmarried males than one finds infesting our cities and towns. Moreover there are comparatively few opportunities for a woman to make an independent living in the country, so that she is almost under compulsion to marry or else to move to town, where she can get remunerative employment.

Forestry. Forestry as distinct from lumbering has only recently received attention in this country. The United States Timber Culture Act of 1873 was designed to encourage tree planting by granting not more than 160 acres of the public land free of cost to anyone who would plant a part of it to timber trees. At first it was required that one fourth of the land be so planted, but the requirement was soon changed to one sixteenth. The purpose was obviously to encourage the partial forestation of the western prairies, but what nature herself had never been able to accomplish was not accomplished by act of Congress. As one rides over the western plains one occasionally sees small tracts of straggling trees fighting for an existence in land which is too dry for them. These are the results of that act of Congress. Possibly if the act had been passed earlier, while there was public land left in the humid belt, something might have been accomplished, but even this is doubtful. Prairie land which will grow trees is generally more valuable for other

purposes. Even if a settler had, on such land, made trees grow successfully, he would probably have found it advantageous to cut them down in order to devote the land to some more valuable purpose.

Forestry economical on waste land. Forestry, in order to be an economic success, must obviously be practiced on land which would produce a greater value at lower cost when planted to trees than when planted to anything else. Mountainous and semi-mountainous lands, stony or swampy lands, and lands which for other reasons are unsuited to tillage or pasturage furnish the natural opportunity for the practice of forestry on a large scale. While the annual product in the form of the annual timber growth is small, the cost is likewise small. Since the land would otherwise go to waste altogether, it is better to get even a small product than none at all.

Scientific forestry. In recent years the federal government and several of the states have created forest reserves. Scientific forestry is being practiced, but it must be remembered that scientific forestry in this country is necessarily different from what it is in old countries. In a country where lumber is still cheap as compared with other countries, though dear as compared with what it once was, and where labor is dear, as it is in this country, one cannot do in the name of science what one can do in an old country, where lumber is dear and labor cheap. A serious problem for the American forester is to keep costs down; unless he does this he may find that the timber is not worth what it costs to grow it. For this reason it is not the custom in this country to do much planting of trees or preparation of the ground. The work is mainly confined, first, to cutting out undesirable growths in order to give the more durable growths, which are in the main self-seeded, a chance to grow; and, second, and more important still, to guard against forest fires. Our summers, which are dry compared with those of Europe, make the forest fire the great enemy of the American forester. The fight against diseases and pests is a third task.

Fish culture. Fish culture has been fostered by the federal and state governments of the United States and by various private agencies. Spawn is collected and hatched, and millions of young fish are distributed in our streams and along our seacoasts. A great deal of study is being given to the habits of various edible fishes and the sources of their food. Private enterprise is also active in stocking streams and small bodies of water, and in growing fish of various kinds for the market.

With our Great Lakes on the north, the two oceans on the east and west, and the Gulf of Mexico on the south, and with all our noble rivers, we have access to such vast and seemingly inexhaustible supplies of fish that fish culture in a strict sense has not developed very far among us. Hatching and distributing spawn, and leaving the spawn to shift for itself and take its chances along with other wild fish, is a step in the right direction, but it stops far short of the work of the animal breeders on our farms.

CHAPTER XVIII

THE MANUFACTURING INDUSTRIES

Various types of manufacturing establishments. When we think of a manufacturing industry nowadays, we are very likely to form a picture of a huge building or group of buildings, dominated by a tall chimney and filled with roaring machinery and busy men and women. Such is, indeed, the typical factory, though much manufacturing is still done in small shops where a few men work with small and comparatively simple tools. In the large factory the tools and the raw material, as well as the buildings, engines, etc., are usually owned by one man or group of men, while the work is done by another group. In smaller establishments various combinations are found. One kind of manufacturing establishment which is still numerous and widely distributed is the small shop where the worker owns his own tools and equipment, buys his own raw materials, and sells the finished product. It does not constitute much of a change, certainly not a revolution, when he hires a few helpers or apprentices to assist him. They work with his tools upon his raw materials, and they receive their compensation in the form of wages instead of in the form of a share of the profits of the business. Even where the owner ceases to do any of the work except to keep the accounts, buy the raw materials and sell the products, and exercise general supervision and management, the transition may have been so gradual as to attract no one's attention. By this gradual change, however, a type of manufactory may be developed which is very different from that with which it started.

But the transition is not always made in this way. Other methods of organization have existed at various times, and still

exist. In one class of shops the worker owns his own tools and runs his own shop, but does not own the raw materials upon which he works. These are furnished by an outside person who supplies them and owns the finished product, paying the worker a price agreed upon for the work which he does. In this case also the worker may hire a few helpers or apprentices.

Still another method is found where the worker owns neither the materials upon which nor the tools with which he works. A third person supplies both materials and tools, — everything, in fact, except the place in which the work is done. This the laborer himself supplies.

In the modern factory, however, everything is assembled in one building or group of buildings, around one power plant; everything is owned by one group of individuals, and the laborer furnishes nothing except his own skill and strength. The great advantage of this system is its economical use of power. Wherever a large use of power is necessary, it is important that it be effectively and economically utilized. In all such cases the factory, in this modern sense, tends to displace all other methods of manufacturing. Where comparatively little power is required, and where, therefore, it is not of such great importance that it be economized, other methods still survive. In some cases, however, the competition of the factory is so severe as to force the workers in the small shops to work for very low wages. Where the main factor in success is the skill of the worker rather than cheap power, the small shop will probably continue to compete successfully with the factory.

There has been a general tendency, however, for the large factory to grow and the small shop to decline in importance.

Progress toward large-scale production. The stages of this development from the small shop to the factory are by no means clear. Almost every form of manufacturing will be found in every stage of economic development. The large

factory has come to be the dominant form only since the invention of power-driven machinery. The industrial revolution, as it is called, was the rather sudden growth of the factory to this dominant position during the latter half of the eighteenth century.

Power-driven machinery and large-scale production. A remarkable series of inventions followed one another in rapid succession and transformed several of the large industries of England into factory industries. These changes put England definitely in the lead as a manufacturing nation. The same revolution came in other countries a little later. Says Marshall:[1]

> The quarter of a century beginning with 1760 saw improvements follow one another in manufacture even more rapidly than in agriculture. During that period the transport of heavy goods was cheapened by Brindley's canals, the production of power by Watt's steam engine, and that of iron by Cort's processes of puddling and rolling and by Roebuck's method of smelting it by coal in lieu of the charcoal that had become scarce; Hargreaves, Crompton, Arkwright, Cartwright, and others invented, or at least made economically serviceable, the spinning jenny, the mule, the carding machine, and the power loom; Wedgwood gave a great impetus to the pottery trade that was already growing rapidly; and there were important inventions in printing from cylinders, in bleaching by chemical agents, and in other processes. A cotton factory was for the first time driven directly by steam power in 1785, the last year of the period. The beginning of the nineteenth century saw steamships and steam printing presses, and the use of gas for lighting towns. Railway locomotives, telegraphy, and photography came a little later. Our own age has seen numberless improvements and new economies in production, prominent among which are those relating to the production of steel, the telephone, the electric light, and the gas engine; and the social changes arising from material progress are in some respects more rapid than ever. But the groundwork of the changes that have happened since 1785 was chiefly laid in the inventions of the years 1760 to 1785.

The inventions which preceded the cotton factory. A more detailed account is given in Walpole's "History of England from 1815"[2]:

[1] Alfred Marshall, Principles of Economics, 4th ed., p. 42. London, 1898.

[2] Quoted from Bullock's "Selected Readings in Economics," pp. 128–143. Ginn and Company, Boston, 1907.

In the middle of the eighteenth century, then, a piece of cotton cloth, in the true sense of the term, had never been made in England. The so-called cotton goods were all made in the cottages of the weavers. The yarn was carded by hand; it was spun by hand; it was worked into cloth by a hand loom. The weaver was usually the head of the family; his wife and unmarried daughters spun the yarn for him. Spinning was the ordinary occupation of every girl, and the distaff was, for countless centuries, the ordinary occupation of every woman. The occupation was so universal that the distaff was occasionally used as a synonym for "woman." "Le royaume de France ne tombe point en *quenouille.*" . . . To this day every unmarried girl is commonly described as a spinster.

The operation of weaving was, however, much more rapid than that of spinning. The weaver consumed more weft than his own family could supply him with; and the weavers generally experienced the greatest difficulty in obtaining sufficient yarn.

THE FLY SHUTTLE

About the middle of the eighteenth century the ingenuity of two persons, a father and a son, made this difference more apparent. The shuttle had originally been thrown by the hand from one end of the loom to the other. John Kay, a native of Bury, by his invention of the fly shuttle, saved the weaver from this labor. . . . By means of these inventions the productive power of each weaver was doubled. Each weaver was easily able to perform the amount of work which had previously required two men to do, and the spinsters found themselves more hopelessly distanced than ever in their efforts to supply the weavers with weft. . . .

HARGREAVES'S SPINNING JENNY

The trade was in this humble and primitive state when a series of extraordinary and unparalleled inventions revolutionized the conditions under which cotton had been hitherto prepared. A little more than a century ago (1764–1767) James Hargreaves, a poor weaver in the neighborhood of Blackburn, was returning home from a long walk, in which he had been purchasing a further supply of yarn for his loom. As he entered his cottage his wife, Jenny, accidentally upset the spindle which she was using. Hargreaves noticed that the spindles, which were now thrown into an upright position, continued to revolve, and that the thread was still spinning in his wife's hand. The idea immediately occurred to him that it would be possible to connect a considerable number of upright spindles with one wheel, and thus multiply the productive power of each spinster. He contrived a frame in one part of which he placed eight rovings in a row, and in another part a row of eight spindles. . . . His ignorant neighbors hastily concluded

that a machine which enabled one spinster to do the work of eight would throw multitudes of persons out of employment. A mob broke into his house and destroyed his machine. Hargreaves himself had to retire to Nottingham, where, with the friendly assistance of another person, he was able to take out a patent for the spinning jenny, as the machine, in compliment to his industrious wife, was called.

ARKWRIGHT'S WATER FRAME

The invention of the spinning jenny gave a new impulse to the cotton manufacture. But the invention of the spinning jenny, if it had been accompanied by no other improvements, would not have allowed any purely cotton goods to be manufactured in England. The yarn spun by the jenny, like that which had previously been spun by hand, was neither fine enough nor hard enough to be employed as warp, and linen or woolen threads had consequently to be used for this purpose. In the very year, however, (1769) in which Hargreaves moved from Blackburn to Nottingham, Richard Arkwright took out a patent for his still more celebrated machine. . . . The principle of Arkwright's great invention is very simple. He passed the thread over two pairs of rollers, one of which was made to revolve much more rapidly than the other. The thread, after passing over the pair revolving slowly, was drawn into the requisite tenuity by the rollers revolving at a higher rapidity. By this simple but memorable invention Arkwright succeeded in producing thread capable of employment as warp. From the circumstance that the mill at which his machinery was first erected was driven by water power, the machine received the somewhat inappropriate name of the water frame; the thread spun by it was usually called the water twist.

PAUL'S CARDING MACHINE

The invention of the fly shuttle by John Kay had enabled the weavers to consume more cotton than the spinsters had been able to provide; the invention of the spinning jenny and the water frame would have been useless if the old system of hand carding had not been superseded by a more efficient and more rapid process. Just as Arkwright applied rotatory motion to spinning, so Lewis Paul introduced revolving cylinders for carding cotton. Paul's machine consisted of "a horizontal cylinder, covered in its whole circumference with parallel rows of cards with intervening spaces, and turned by a handle. Under the cylinder was a concave frame lined internally with cards exactly fitting the lower half of the cylinder, so that when the handle was turned the cards of the cylinder and of the concave frame worked against each other and carded the wool." "The cardings were of course only of the length of the cylinder, but an ingenious apparatus was attached

for making them into a perpetual carding. Each length was placed on a flat, broad riband, which was extended between two short cylinders, and which wound upon one cylinder as it unwound from the other."

CROMPTON'S MULE

This extraordinary series of inventions placed an almost unlimited supply of yarn at the disposal of the weaver. But the machinery, which had been thus introduced, was still incapable of providing yarn fit for the finer qualities of cotton cloth. "The water frame spun twist for warps, but it could not be advantageously used for the finer qualities, as thread of great tenuity has not strength to bear the pull of the rollers when winding itself on the bobbin." This defect, however, was removed by the ingenuity of Samuel Crompton, a young weaver residing near Bolton. Crompton succeeded (1774–1779) in combining in one machine the various excellences of "Arkwright's water frame and Hargreaves's jenny." Like the former, his machine, which from its nature is happily called the mule, "has a system of rollers to reduce the roving; and, like the latter, it has spindles without bobbins to give the twist, and the thread is stretched and spun at the same time by the spindles after the rollers have ceased to give out the rove."

Before Crompton's time it was thought impossible to spin eighty hanks to the pound; the mule has spun three hundred and fifty hanks to the pound! The natives of India could spin a pound of cotton into a thread one hundred and nineteen miles long; the English succeeded in spinning the same thread to a length of one hundred and sixty miles. Yarn of the finest quality was at once at the disposal of the weaver, and an opportunity was afforded for the production of an indefinite quantity of cotton yarn. But the great inventions which have thus been enumerated would not of themselves have been sufficient to establish the cotton manufacture on its present basis. The ingenuity of Hargreaves, Arkwright, and Crompton had been exercised to provide the weaver with yarn. Their inventions had provided him with more yarn than he could by any possibility use. The spinster had beaten the weaver just as the weaver had previously beaten the spinster, and the manufacture of cotton seemed likely to stand still because yarn could not be woven more rapidly than an expert workman with Kay's improved fly shuttle could weave it.

CARTWRIGHT'S POWER LOOM

Such a result was actually contemplated by some of the leading manufacturers, and such a result might possibly have temporarily occurred if it had not been averted by the ingenuity of a Kentish clergyman. Edmund Cartwright, a clergyman residing in Kent, happened to be staying at Matlock in the summer of 1784, and to be thrown into the company of some Manchester gentlemen. The conversation turned on Arkwright's machinery, and "one of the company observed that as soon as Arkwright's patent expired so many mills would be erected and so much cotton spun that hands would never be found to weave it." Cartwright replied "that Arkwright must then set his wits to work to invent a weaving mill." The Manchester gentlemen, however, unanimously agreed that the thing was impracticable. Cartwright "controverted the impracticability by remarking that there had been exhibited an automaton figure which played at chess." It could not be "more difficult to construct a machine that shall weave than one which shall make all the variety of moves which are required in that complicated game." Within three years he had himself proved that the invention was practicable by producing the power loom. Subsequent inventors improved the idea which Cartwright had originated, and within fifty years from the date of his memorable visit to Matlock there were not less than one hundred thousand power looms at work in Great Britain alone. . . .

Such are the leading inventions which made Great Britain in less than a century the wealthiest country in the world. . . .

THE STEAM ENGINE OF NEWCOMEN AND WATT

Steam was actually used early in the eighteenth century as a motive power for pumping water from mines; and Newcomen, a blacksmith in Dartmouth, invented a tolerably efficient steam engine. It was not, however, till 1769, that James Watt, a native of Greenock, and a mathematical-instrument maker in Glasgow, obtained his first patent for "methods of lessening the consumption of steam, and consequently of fuel, in fire engines." James Watt was born in 1736. His father was a magistrate, and had the good sense to encourage the good turn for mechanics which his son displayed at a very early age. At the age of nineteen Watt was placed with a mathematical-instrument maker in London, but feeble health, which had interfered with his studies as a boy, prevented him from pursuing his avocations in England. Watt returned to his native country. The Glasgow body of Arts and Trades, however, refused to allow him to exercise his calling within the limits of their jurisdiction; and had it not been for the University of Glasgow, which befriended him in his difficulty and appointed

him their mathematical-instrument maker, the career of one of the greatest geniuses whom Great Britain has produced would have been stinted at its outset.

There happened to be in the university a model of Newcomen's engine. It happened, too, that the model was defectively constructed. Watt, in the ordinary course of his business, was asked to remedy its defects, and he soon succeeded in doing so. But his examination of the model convinced him of serious faults in the original. Newcomen had injected cold water into the cylinder in order to condense the steam and thus obtain a necessary vacuum for the piston to work in. Watt discovered that three fourths of the fuel which the engine consumed was required to reheat the cylinder. " It occurred to him that, if the condensation could be performed in a separate vessel, communicating with the cylinder, the latter could be kept hot, while the former was cooled, and the vapor arising from the injected water could also be prevented from impairing the vacuum. The communication could easily be effected by a tube, and the water could be pumped out. This is the first and the grand invention by which he at once saved three fourths of the fuel and increased the power one fourth, thus making every pound of coal produce five times the force formerly obtained from it." But Watt was not satisfied with this single improvement. He introduced steam above as well as below the piston, and thus again increased the power of the machine. He discovered the principle of parallel motion, and thus made the piston move in a true straight line. He regulated the supply of water to the boiler by the means of " floats," the supply of steam to the cylinder by the application of " the governor," and, by the addition of all these discoveries, " satisfied himself that he had almost created a new engine of incalculable power, universal application, and inestimable value. " . . .

The steam engine, indeed, would not have been invented in the eighteenth century, or would not at any rate have been discovered in this country, if it had not been for the vast mineral wealth with which Great Britain has fortunately been provided. . . .

DUDLEY'S METHOD OF SMELTING IRON WITH COAL

At the commencement of the seventeenth century Dud Dudley . . . had proved the feasibility of smelting iron with coal; but the prejudice and ignorance of the work people had prevented the adoption of his invention. In the middle of the eighteenth century, attention was again drawn to his process, and the possibility of substituting coal for wood was conclusively established at the Darby's works at Coalbrook Dale. The impetus which was thus given to the iron trade was extraordinary. The total produce of the country amounted at the time to only 18,000 tons of iron a year, four

fifths of the iron used being imported from Sweden. In 1802 Great Britain possessed 168 blast furnaces, and produced 170,000 tons of iron annually. In 1806 the produce had risen to 250,000 tons; it had increased in 1820 to 400,000 tons. Fifty years afterwards, or in 1870, 6,000,000 tons of iron were produced from British ores.

The progress of the iron trade indicated, of course, a corresponding development of the supply of coal. Coal had been used in England for domestic purposes from very early periods. Sea coal had been brought to London; but the citizens had complained that the smoke was injurious to their health, and had persuaded the legislature to forbid the use of coal on sanitary grounds. The convenience of the new fuel triumphed, however, over the arguments of the sanitarians and the prohibitions of the legislature, and coal continued to be brought in constantly though slowly increasing quantities to London. Its use for smelting iron led to new contrivances for insuring its economical production.

Decay of small industries. Scarcely less striking would be an account of the rise of machine production in other industries, following the use of steam power and cheap iron and steel. Shoe manufacturing, the grinding of flour, the slaughtering of meat animals and the curing and packing of meat, the manufacture of watches, automobiles, etc., and various other industries have shown the same tendency toward the factory system of production. Regarding changes in our own country, Professor Ely writes:[1]

> Let the reader call to mind the many things in our economic life which the world never saw before. He will, of course, think at once of the railway and of steam navigation, and of other applications of steam to industry. But these have brought other important new phenomena. The concentration of large masses of working-people in great factories of which they own no part, and under a single employer, such as we see daily, is something new for skilled mechanics; not that nothing of the kind ever existed before, but its existence is so much more common and affects so many more people that in its social aspects it is new. In the last century, and in previous centuries of the Middle Ages, artisans owned the tools which they used, and after they had fully mastered their trades usually called no man master, but worked in their own little shops. Even within the memory of the author, still comparatively a young man, this condition of things

[1] Richard T. Ely, An Introduction to Political Economy, pp. 55–57. New York Chautauqua Press, 1889.

has become less common. The smith, under the spreading tree, of whom Longfellow sang, is disappearing. He has left the cross-roads in the little village and now works in a machine shop. His friends, the carpenter and the shoemaker, have accompanied him. A few artisans may stay to do repairing and other small work, but the cheaper processes of vast establishments have rendered this migration inevitable for the many. Only the few among artisans can live in the old style.

CONCENTRATION IN LARGE CITIES

Houses are constructed in large establishments and they are sent to small places where it is only necessary to put them together. Merchants have also been obliged to leave the villages where they were owners of independent establishments to seek employment in immense city retail and wholesale shops, because the railroad has carried their customers away from them.

The amount of production increases continually, but the number of separate establishments where production is carried on decreases uninterruptedly. Milling serves as a good illustration. "The completion of the great mills has caused the abandonment and decay of hundreds of the picturesque, old-fashioned neighborhood mills. In 1870, according to the census of that year, there were in the entire country 22,573 grist mills, 58,448 hands, representing $151,500,000 of capital, and making a product worth $444,900,000. In 1880 the number of establishments was 24,338, the number of hands 58,407, the capital invested $177,300,000, and the value of the product was $505,100,000 (the price of flour had declined ten per cent in this decade). The increase shown in the number of establishments . . . is more apparent than real, the great bulk of flour having been made in a decidedly smaller number of mills in 1880 than in 1870. Since 1880 the blighting effect of the great merchant mills upon the small establishments has become visible to every one. According to the Miller's Directory for 1884, . . . there were at that time some 22,940 mills in the country, a decline of 1,398 from the census figures of 1880. . . . From 1884 to 1886 . . . the number of milling establishments has declined to 16,856 . . . a loss in two years of more than twenty-six per cent."[1] The number of mills in the South has declined more rapidly than elsewhere. In 1880, in North Carolina, 1313 mills employed only 1844 men, but in the same state there were only 632 mills in 1886. It is said that the number of mills in the country is destined to become very much smaller still. Readers can readily gather from census and trade reports many similar illustrations of this concentration of business, which is one of the main causes of the existence of present problems.

[1] Albert Shaw in the *Chautauquan* for October, 1887.

Tendency of mechanically expert nations toward indoor industries. Large portions of the world's population still remain in a condition of mechanical inexpertness. They find it more advantageous to live from the products of the soil, exchanging these products for the manufactured products of the mechanically expert nations. Other populations, like those of our own West, while mechanically expert, occupy land of such abundance and fertility that they find it more profitable to cultivate land than to turn to the indoor industries. They use their mechanical expertness in contriving and operating farm machinery. They exchange their large surplus of farm products for the manufactured products of other people who are mechanically expert and who occupy lands of less extent and lower fertility. The latter, not having vast areas to cultivate, find less profitable opportunities for their mechanical expertness out of doors than indoors. Therefore they develop the indoor industries. England, who got a good start ahead of the rest of the world in this line of development, prospered amazingly. The eastern part of the United States, together with France, Belgium, Holland, and lately Germany, have been following in the same direction. As this tendency increases, the competition among the indoor industries is likely to become so intense as to reduce the profits and drive a certain percentage of the people back to the farms.

Taking the United States as a whole, it is rapidly ceasing to be primarily an agricultural country and is becoming a manufacturing country, following a similar development in England and northwestern Europe. Canada, South America, Australia, South Africa, and all countries where white men colonize will doubtless follow in the same direction. There will then be left only the tropics in which to sell the surplus products of manufacture and from which to draw the surplus products of the soil. It is probable that the development of the indoor industries will be checked before that state is reached. In that case each country will have to preserve a balance, or equilibrium, between the indoor and the outdoor industries.

As pointed out in the chapter on the Genetic Industries, the advance in civilization, and the general improvement of living conditions, tends to add to the relative importance of the indoor as compared with the outdoor industries. The finer the goods we demand, the more work we make, generally speaking, for the indoor workers. Even farm work itself comes, in a sense, to be done indoors rather than outdoors. The substitution of the tractor for the horse may serve to illustrate this statement. The raising of horses is outdoor work; the manufacturing of tractors is indoor work. If we use more tractors and fewer horses, a larger proportion of our workers will work indoors and a smaller proportion outdoors.

This is a process which must be expected to continue even though we remain a self-sufficing nation. If we cease to be a self-sufficing nation, bringing raw materials and products of the soil from distant portions of the earth, and sending in exchange the more refined products of the indoor industries, we must expect that manufacturing will become in larger and larger degree our dominant occupation.

CHAPTER XIX

TRANSPORTATION

Moving things over long distances. Since all industry consists in moving materials from one place to another, it follows as a matter of course that transportation must form an important part of the industrial system. That which we call transportation differs, however, from other kinds of work in that it consists in moving materials over long distances, — distances which are measured in miles rather than in inches, feet, or yards. The transportation system has been likened to the veins and arteries of the physiological organism, just as the telegraph and telephone systems have been likened to the nerves.

The development of the factory system as described in the preceding chapter, and of large-scale production in general, would have been impossible without cheap transportation.

> The railway and the factory have gone hand in hand in their development and in their economic results. With the means of transportation which existed two hundred years ago large industries would have been impossible. The substitution of turnpikes for common roads, of canals for turnpikes, and of railways for canals was as essential a part of industrial progress as was the development of the factory system.[1]

Without a wide market on which to sell its large product a large factory or manufacturing establishment would be an impossibility. In the days of restricted local markets, when each little community was almost self-sufficing, small shops having individual handicraftsmen could supply the needs of each such unit. Not the least important of the changes which have come about since the middle of the eighteenth century has been the

[1] President A. T. Hadley, "Transportation," in Palgrave's Dictionary of Political Economy.

battering down of the walls which divided one restricted market from another, and the creation of nation-wide or world-wide markets instead of a series of local, restricted markets.

The widening of the market. Cheap transportation, more than anything else, has made possible the development of nation-wide and world-wide markets. Raw materials sometimes have to be brought long distances, especially in a case where several different kinds of raw material enter into the making of a given product. These different kinds of raw material are not always found in close juxtaposition. The iron ore of the Lake Superior region would be practically useless, because of its distance from the coal fields, were it not for cheap transportation on the Great Lakes, by means of which it can be carried almost to the mouths of the coal mines of Illinois, Indiana, Ohio, and Pennsylvania.

In other cases the raw material itself is produced over such wide areas as to make centralized and large-scale production an impossiblity without cheap transportation. The slaughtering of meat animals and the curing and packing of the meat is a case in point. These animals must be grown on the farms and ranges over considerable areas. Without cheap transportation they would have to be slaughtered and consumed nearer the sources of production; with cheap transportation they may be sent to a few large packing centers, and from these centers the meat can be distributed over practically the whole country and over considerable portions of the civilized world. Without cheap transportation every large city would be dependant upon the supply of meat that could be grown within driving distance, that is, within such distances as the animals could travel on foot. They would have to be slaughtered near each center of consumption in order that the meat might be distributed economically. Without cheap transportation the cotton industry of New England could never have developed to such proportions as it has. The raw material is all produced hundreds of miles, and most of it thousands of miles, away from the factories. The manufactured product, in turn, is distributed over the entire

country and considerable portions of the civilized world. Every description of the industrial revolution in England gives great attention to the cotton and woolen industries, for it was in these industries that the transition was most striking. And perhaps the most striking feature was the long distances over which the raw material had to be transported and the wide markets in which the finished product could then be sold. Before the development of the railways, water transportation was the only cheap form; and England was peculiarly well situated with respect to ocean transportation.

However great the economies of large-scale production may be, if the cost of transportation were as great as it once was, the small producer, using locally-produced raw materials and selling on a local market, would save so much on the cost of transportation as to give him an advantage over the biggest factory located a long distance away. The cheaper transportation becomes, the less the saving of transportation costs will figure as an advantage in industry. Every industry will then tend to be located in the place where other advantages are greatest. When freight costs one cent per ton per mile, one can readily see that one could ship a suit of clothes weighing, say ten pounds, a long distance without adding perceptibly to the cost of the suit. The freight for a thousand miles would be only five cents. If it cost twenty-five cents per ton per mile, distance would be a very large factor in the location of a clothing industry.

Water transportation developed first. Historically, water transportation was cheapened long before we had cheap land transportation. Consequently we find that commerce in a large sense developed first on the water. Great cities were located where there were advantages in water transportation. Considerable commerce has always been carried on, from the very earliest times, by means of caravans traveling over land, but the cost of this kind of transportation was so great that the commerce which developed under these conditions was necessarily confined to articles of luxury which embodied large value

in small bulk. "The wealth of the Indies," as that term was used in Europe, consisted of silks, gold and silver and precious stones, and a few rare delicacies for the very rich. Some considerable cities, however, developed along these overland routes. Damascus and Palmyra in western Asia, Troyes and Nuremberg in Europe, may be cited as examples. But the great cities developed along water routes; Canton, Hankow, Calcutta, Delhi, Nineveh, Babylon, Bagdad, Tyre, Constantinople, Memphis, Alexandria, Venice, Genoa, Antwerp, and London may be cited as examples.

Water transportation developed first, of course, where it was safe; that is, on rivers or small bodies of inclosed water. The great rivers were the first great routes for cheap transportation. The valleys of the Nile, the Euphrates, the Tigris, the Ganges, and the Yangtse developed great civilizations, partly because they contained good soil and opportunities for irrigation, but also because they furnished means of transportation.

The keel and the compass. The next stage was reached when the sailors ventured beyond the mouths of the rivers along the adjacent coasts and in inclosed seas like the Ægean, the Mediterranean, and the Baltic. The difficulty of navigation in those days was such as to make an ocean voyage extremely hazardous, if at all possible. The boats of those early days were flat-bottomed, that is, they had no keels; it was therefore impossible to sail in the teeth of the wind. Sails could be used only when the wind was favorable; that is, when it blew almost in the direction in which the sailors wanted to go. At other times they had to depend upon large numbers of oars worked by human muscles. The galley slave was a part of that system of transportation. There is some dispute as to the origin of the keel, but whenever or wherever it was invented, it must be regarded as one of the great inventions of history, for it enabled the sailor to sail almost into the teeth of the wind and, by skillful tacking, to go anywhere he wanted to, regardless of the direction of the wind. A little later the mariner's compass came into use, by

means of which the sailor could venture out of sight of land and still keep his bearings and reach his destination.

With these two inventions in their possession, sailors could now leave not only the rivers but the inclosed seas, and venture away from the seacoasts and traverse the broad, uncharted ocean. Columbus never would have dared to venture on his quest of an ocean route to India without these two inventions.

The world faces on the ocean. As a result of the discoveries of Columbus, Vasco da Gama, and others the world was said to have faced about. The various nations had formerly faced inward, with their backs to the ocean; the land united peoples, but the ocean divided them. Since that time they have tended to face outward, that is, to face the ocean; and it is now said that the land divides, but the ocean unites. While distances are great over these ocean routes, the building of larger ships propelled either by steam or by wind has made ocean transportation the cheapest of all forms. Where time is not a factor, the huge sailing vessels can carry freight thousands of miles cheaper than it can be carried hundreds of miles even on our best railways. Where time is a factor, the cost is slightly greater, but still ocean freight rates are amazingly low. The question of economizing power and that of economizing time seem sometimes to come into conflict. The sailing vessel is the greatest economizer of power, but it is not economical of time.

The order of development of water transportation has been described as, first, the potamic stage; second, the thalassic; and, third, the oceanic. The following outline indicates roughly the general types of transportation now in use.

- TRANSPORTATION
  - Water
    - Potamic
    - Thalassic
    - Oceanic
  - Land
    - Paths, roads, and streets
      - Man power
      - Animal power
      - Mechanical power
    - Railways
    - Tramways
  - Air

The most primitive trade routes were probably paths traversed by human beings carrying their own loads. Beasts of burden were, however, utilized very early for this purpose. The accounts of early explorers in Central Africa describe the great forest as penetrated by a network of paths running from one village to another, so that a traveler could cross the continent by persistently following these paths. The great caravan routes mentioned above, across the desert and open country, made use of animals as beasts of burden.

Wheels. A wheeled vehicle is a great advance over the carrying of loads on the backs either of men or of animals. In some of the backward districts of China, porters still carry huge loads, and it is amazing what loads a man can carry who has been trained to it all his life. But where the road is made suitable for wheeled vehicles, the porter can haul about three times as much on wheels as he can carry. On a paved street or a macadamized road in this country a pair of good horses will haul from two to four tons, whereas about six hundred pounds is a load for a pack horse. Even on the common dirt roads of the country, when they are reasonably well kept and not muddy, a pair of horses will haul from a ton and a half to two tons.

Most people use roads and streets more than they use railroads, though it is difficult to say that one is more important than the other. They are all so interlocked and interdependent that it is hard to treat them separately. For short distances we must of course depend upon roads and streets, using the railroads for transportation over long distances and the hauling of heavier loads.

Animal power. On the roads and streets man power is still used, as suggested above, in some backward countries. It is cheap only when labor is very cheap. A man can live on much less grain than is required to feed a horse. If a man is willing to live largely on a grain diet, it will hardly pay him to keep a horse where grain is very scarce. Where the population is so

dense that it is necessary to conserve every ounce of food, and men are reduced to the barest necessities of life, it is uneconomical to use animal power except for heavy loads which are too great for human muscles. Where there is land enough to provide food not only for human beings but for animals, the use of animal power becomes economical, because much more work can be done, more land cultivated, more goods transported, and thus the animals can be fed and still leave more to supply human needs than would otherwise be produced.

Mechanical power. There is a tendency at the present time to substitute mechanical power for animal power even on the roads and streets. The development of the automobile and the auto truck is opening up great possibilities in this direction. It is not probable, however, that mechanical power will entirely displace animal power, any more than animal power could entirely displace human power. The tendency in our civilized communities is for the use of human power for transportation purposes to be confined to shorter and shorter distances; carrying goods from the grocer's delivery wagon to the kitchen door, carrying coal from the curbstone to the cellar, moving goods within warehouses, etc., will probably continue to be done by human muscles for some time to come. A similar development will probably take place with respect to animal power. For long distances and the carrying of heavy loads the auto truck will probably prove increasingly economical, but for short distances the horse is still and will probably continue for some time to be more economical. The economy of the auto truck, however, depends upon the character of the roads. With the common dirt roads which formerly prevailed in the country it is doubtful if it could have been used economically even if it had been developed.

Better tracks. It is interesting to note how every advance in methods of transportation seems to depend upon the quality of the road or track. Wheeled vehicles could only be substituted for pack saddles when there were roads suitable for wheeled vehicles. Well-kept roads and paved streets are

necessary before mechanical power can be substituted for animal power in ordinary hauling. The acme of track building is the railway, where the wheeled vehicle runs on steel rails. The friction and loss of power between the wheel and the track is reduced to the minimum. In a similar way the modern locomotive is the climax of the development of mechanical power. Thus the improvement in mechanical devices goes hand in hand with the improvement in road or track. Ever since the first building of railways and the use of locomotive engines this development has proceeded hand in hand. The first locomotives were small and crude affairs as compared with the magnificent engines which now haul our freight and passenger trains. The magnificent engines of to-day, however, could scarcely run on the old-fashioned railway track, with its light iron rails. Improvement in the manufacture of the steel rail has had to go hand in hand with the improvement of the locomotive engine.

Railways. It may seem strange to young people to be told that there are men now living who can remember when there were no railways. Such men, of course, are now somewhat rare, but the fact remains that the present age of the railway does not exceed the span of a reasonably long human life. The railway mileage of the world has increased by leaps and bounds. In no country has the development of the railway kept pace with its development in the United States, though in proportion to their need for railway transportation England and Germany have kept close behind us. Our area is so vast, and our people have been spreading so rapidly over this vast area, that a great demand for transportation facilities has been created. In addition we have had an abundance of material for their construction. Moreover, our people have shown a great deal of initiative and enterprise in pushing the business. In some countries this spirit of enterprise has been so lacking that the governments themselves have had to take hold of the matter and build the roads at government expense.

Public or private railways. The problem of railway management, however, has been a very difficult one in every country. In one sense the railway system would seem to belong to the general system of streets, roads, and highways. The general experience of mankind has shown that streets, roads, and highways should be public rather than private. This has led to the assumption that railways should be treated similarly. There is, however, this important difference. On the streets, roads, and highways private individuals use their own vehicles, travel freely, and go and come when they please. The actual work of transportation, therefore, is not carried on by the public. This method would be impossible on a railway. The trains must run on schedule time and under a well-administered system; otherwise there would be nothing but confusion and inefficiency and multitudinous wrecks. If the public undertakes to own the railways, it would have to go much farther than it does when it owns the streets and highways. It would either have to operate all the vehicles (that is, trains) or lease the road to a single company which would have the exclusive use of the tracks. Obviously even two independent individuals or companies could not operate trains on the same track. There are therefore two analogies which may be drawn between the highway system and the railway system. Since the government owns the highways, one group of people, reasoning by analogy, say that the government ought to own the railways. On the other hand, it is asserted that since private individuals operate the vehicles that are used on the highways, and the government is not in the transportation business at all, a similar rule should prevail with respect to railway transportation; private individuals or companies should do the hauling, and therefore own the railway. In this country we have followed the latter principle, but it has made necessary a considerable regulation of the companies which do the hauling. A third possibility is that the government should build and own the tracks and then lease them to operating companies.

Monopolistic character of a railway. From the very nature of the case a railway must be operated as a monopoly or quasi-monoply. As suggested above, it would be impossible for even two companies to run trains on the same track or over the same railway system, unless one became absolutely subject to the administrative rules of the other. This quasi-monopolistic character of the railway has given the management more control over rates than individual draymen, freighters, cabmen, etc. can exercise over freight and passenger rates in the vehicles that are operated on public highways. In order to hold in check this quasi-monopolistic power of the railway, a great deal of legislation has been enacted in this country, beginning with the granger laws of the seventies and eighties of the last century and culminating in the Interstate Commerce Act of 1887 and the subsequent development of the powers of the Interstate Commerce Commission. This commission now has power to prescribe rates and to exercise general control and supervision over the administration of all the railways of the country.

Short- and long-distance hauling. In several countries, such as Germany, Switzerland, Australia, and others, the opposite alternative has been chosen. The government has built and continues to operate the railways. In Germany it was primarily a military enterprise; in order that she might build up her military power and be able to concentrate vast armies and supply them at any point, she needed a well-articulated railway system. In this respect her policy resembled that of the Romans, who were great road builders in their day. Their system of roads enabled them to march their armies rapidly from one part of the Empire to another, to concentrate wherever concentration was needed, and thus to outmaneuver their enemies.

As to the effects of the two systems on peaceful commerce, there are many different opinions. In some respects freight rates are more favorable in Germany than in the United States; in others they are much more favorable in the United States. No railway system in the world compares with that of the United

States in the cheapness and swiftness of long-distance freight. Our railways, however, have given comparatively little attention to local freight. In the efficiency and cheapness with which local freight is handled, they are far behind the railroads not only of Germany, where the government owns and operates the roads, but also of England, where they are operated by private companies. The difference is probably not, therefore, to be accounted for on the ground of public or private ownership. In a densely populated country, where the distances are never very great, it would be quite natural that short-distance, or local, freight should form a large part of the business of the railroad; whereas in a country of such vast expanse as ours it would be equally natural that long-distance freight should form the chief part of the railroad business. Each railway system, therefore, tends to specialize in that field where its chief business lies.

Arguments against both sides. No final conclusion is possible as to the relative merits of public and private management. As Sir Roger de Coverley was in the habit of saying, "Much might be said on both sides." Each side has its partisans, and each partisan seems peculiarly unable to appreciate the weaknesses of his own side and the strong points on the opposite side. In reading these arguments one gets the impression that there is very little to be said in favor of either, but much that can be said against both. The arguments against private ownership and operation are based mainly on the monopolistic character of the railroad business, the rapacity of railroad managers, and the general distrust of "big business." The arguments against public ownership and operation are based mainly upon the inefficiency of public business, the danger that politics rather than business needs will determine rates and other details of the business, and the general distrust of the politician.

These considerations might very properly convince one that the same system is not necessarily the best for all countries. In a country which is dominated by autocratic and military standards, where business is contemptuously spoken of as

"shopkeeping," where government service attracts a better class of men than business attracts, and where men are chosen for high positions not because of their talkativeness or popularity, but because of their knowledge and efficiency, the objections to public ownership and operation are weak and those against private ownership and operation are weighty. In a country, however, which is dominated by democratic ideals, where business and all honest occupations have always been regarded as just as honorable as government or military service, where, on the whole, business attracts a better class of men than politics, and where men are chosen for high public positions mainly on the ground of their ability to make stump speeches rather than on the ground of their knowledge and efficiency, the objections to government ownership and operation are very strong, and those against private ownership and operation are relatively weak. There is a strong probability, however, that the persuasive talkers will be able to enlarge their powers, at the expense of the efficient doers, by persuading the voters to intrust more and more power to them, the talkers.

CHAPTER XX

MERCHANDISING

Personal utility. In a previous chapter it was pointed out that three kinds of utility are produced by human industry, — form utility, place utility, and time utility. It would be possible, if one cared to draw somewhat finer distinctions, to speak of personal utility as a special phase of place utility; or, on the other hand, personal utility could be named as a fourth kind. When an object is transferred from a person who has no use for it to a person who has a use for it, its utility, or power to satisfy desires, is increased by the transfer, just as truly as though it were transferred from a locality where it is not needed to a locality where it is needed.

There is an ancient fallacy to the effect that someone must gain and someone must lose in every trade. This fallacy has been exploded so often that it hardly seems necessary to repeat the process here. Two farmers may trade horses and both gain. A wool grower who has a surplus of wool and a shoemaker who has a surplus of shoes may exchange products to the advantage of both. A boy who has a surplus of marbles but a deficit of taffy might advantageously exchange some of his surplus marbles for taffy, carrying on the exchange with another boy who had a surplus of taffy but a deficit of marbles. By this process the personal utility of both marbles and taffy would be increased.

Merchandising may be productive of utility. If it is agreed that the power of goods to satisfy wants is increased when those goods get into the possession of the people who really need them, it ought not to be difficult to see that the individual

who facilitates this process is a productive individual; that is, his work results in increased utility. Even if we leave transportation and the storing of goods out of account for the present, and merely consider the transfer of goods from one person to another in the same locality, we shall find that unless there were merchants or mercantile houses the various producers would find difficulty in making the necessary exchanges. The farmer with a surplus of wheat might have some difficulty in finding a shoemaker who wanted wheat and was willing to exchange shoes for wheat. Under a highly developed mercantile system a farmer can always find buyers for his wheat. He can also find a shoe store where he can buy shoes, a clothing store where he can buy clothing, and so on.

These men who specialize in the mercantile pursuits are sometimes called middlemen, and it is not difficult to see that they are not only exceedingly useful but in some cases absolutely necessary. It may sometimes happen that too many middlemen intervene between the producer and the consumer; but some middlemen are absolutely necessary unless the producer will undertake to peddle his products around among consumers, or unless the consumers will undertake to search for producers who have for sale exactly what they, the consumers, desire to purchase. An immense amount of time and trouble is saved when every producer can sell directly to a middleman and go on about his work of production, while at the same time every consumer can purchase exactly what he wants from some merchant.

The middleman as a timesaver. Generally speaking, it will be observed that in any community where the average person considers his time to be valuable, there are a great many middlemen intervening between producers and consumers, and very little direct marketing. In a community, however, where wages and incomes are low and the average person finds his time to be of very little value, comparatively few middlemen intervene between producer and consumer, and there is a great deal of

direct bartering between producer and consumer. The open market place, where producers and consumers meet, flourishes in communities of the latter type but not in communities of the former type.

There is an old adage that time is money. Where time is valuable, it is economized; where it is of little value, it is not economized. Where the average householder considers her time valuable, she does not care to spend much time marketing and dickering with producers who bring their stuff to market. She prefers to market by telephone. This is a great saving of time, but it is generally expensive in terms of money. She is literally paying somebody else to do for her that which she might do for herself if she cared to go to market and deal directly with the producers. Similarly, where the producer considers his time valuable, he would prefer to sell his product in bulk to some middleman rather than to spend his time dickering with consumers and selling his product in small lots. This system of direct marketing saves money, it is true, but it wastes time; the system of indirect marketing saves time but, in a sense, wastes money. The problem in economy which every producer and every consumer must decide for himself is whether his time is worth as much as the money which he might otherwise save.

The peasant women of certain overcrowded countries, who are unable to do farm work and have very little else in the way of remunerative work which they can do, find going to market a means of saving money. They can sell directly to the consumers and cut out middlemen's costs and profits. Since they consider their time as worth practically nothing, every penny which they can save in this way adds so much to the family income. The American farmer, with a somewhat higher standard of living, and the farmer's wife, who considers her time as worth something, if not for earning money by remunerative work, at least for housekeeping or self-cultivation, refuses to spend her time in this way. Therefore it is very

difficult in this country to maintain a system of direct marketing. It is the belief, however, of many students of the problem that the Americans have gone too far in the direction of saving time, — so far, in fact, as to waste more money than necessary in middlemen's costs and profits.

Marketing sometimes a social function. Another factor enters into the success of public markets, where producer and consumer meet. In those countries where the system still prevails, going to market has become a social function. The market place is the place where citizens meet and where the women make their social calls and pay their social obligations. This phase of the question has played a very important part in history. The Roman Forum, for example, was simply the market place, in which the farmers from the surrounding country and the people of the city of Rome met, primarily for purposes of exchange and secondarily for purposes of social intercourse and political discussion. The latter functions gradually displaced the former, and the Roman Forum gradually became the center of Roman politics and eventually the center of the world. The Olympic games, which were for many centuries the center of Greek life, developed in connection with a fair which was held for the exchange of products. While the Greek people were busy with their exchanges the young men took part in athletic and intellectual contests; eventually these contests became the chief feature, and the mercantile function almost disappeared from sight.

The social function of going to market has been revived in a number of ways in recent times. Great department stores, in order to attract trade, especially that of ladies who have time for social diversion, have introduced the paraphernalia of the drawing-room, with pink teas and other accessories. They are deliberately striving to make afternoon shopping a social diversion, thus restoring, in the field of the marketing of frills, some of the features which originally developed in connection with the marketing of the necessaries of life.

Buying large quantities and selling in small parcels. Another very important function performed by the mercantile house is that of receiving products in large quantities, such as are convenient for the producer to sell, and dividing them up into small parcels, such as are convenient for the consumer to buy. This breaking up into small parcels is a work of utility; it meets the convenience of both producer and consumer. The convenience of the producer is met by his ability to sell in bulk; the convenience of the consumer is met by his ability to buy in small parcels. This may, without doing violence to our language, be called a kind of form utility. The goods are bought in one form and sold in another. There is a certain analogy between this process of breaking goods up into small parcels and the process of manufacturing, in which the forms of goods are changed in other ways.

Storing goods. One of the most important functions of the mercantile class, however, is that of storing goods. In fact, it is still customary to speak of certain mercantile houses as stores. The storing of goods, of course, produces time utility. They are kept from a point in time when they are not especially needed until a time when they are especially needed. Their utility is thus increased. This function of storing goods is particularly important in the case of goods which are produced by a seasonal industry, such as agriculture. The wheat is harvested during one period of the year, but needs to be consumed during the entire year. Unless someone were ready to store this product, it would have to be used very inefficiently at one period of the year, and there would be a scarcity at another period.

Utility of storing without monopolizing. Contrary to a certain popular belief, the effect of storing vast quantities of farm products in warehouses is beneficial rather than otherwise. No speculator or warehouse owner would have any motive for storing products except that of getting a higher price later on. He could not get a higher price later on unless the goods

were scarcer later on. If they are scarcer later on, it is very much to the interest of society that they be stored rather than consumed at once. At the present time, May, 1917, when prices are very high anyway, and it is found that a great deal of grain is being stored up, there naturally develops a certain popular dissatisfaction. Being shortsighted, we do not appreciate what is likely to be our situation several months hence. The only thing we see is that prices are now distressingly high. We see this in connection with another fact, namely, that large quantities of wheat are being stored. We think, naturally enough, that if that wheat were taken out of storage and sold at once, prices would not be so high at the present moment. If, however, we were a little more farsighted, we should look ahead and consider what the situation would be, say in July of the present year. If wheat is going to be more abundant then than now, the price will fall. If that were the expectation, nobody would be willing to store a single bushel of wheat until that time. Everybody would want to sell his wheat very soon. If those who are in a position to judge believe that wheat will be scarcer in July than in May, and the price therefore higher, they find it to their interest to store up these products and hold them. If they are correct in their anticipation, it is also very important for society at large that they, or somebody, should store up wheat; otherwise we should consume wastefully this month and go hungry later on. It ought not to take very much forethought or reasoning power to understand this. It is, however, a sad commentary on the shortsightedness of many of our people, and even of men in high political positions, that this is so imperfectly understood and that we are so generally resentful toward those who are performing this important function of storing.

Another fact which should be taken into consideration is that, formerly, large numbers of people, both producers and consumers, did their own storing, whereas at the present time that work is turned over to a special group of men who own

elevators, cold-storage warehouses, and other storage facilities. In a less highly organized state of society many farmers stored grain in their own bins, and potatoes, fruit, and vegetables in their own cellars. At the same time many consumers bought supplies in advance and stored them in their own cellars. At the present time comparatively few farmers hold their products, finding it cheaper to sell them as soon as produced than to build and maintain their own storehouses and run their own risk of loss or deterioration of the products. Moreover, consumers have generally got out of the habit of buying supplies in advance and keeping them stored until needed, finding it cheaper to order supplies as they are needed, depending upon other people to do the storing. While both producer and consumer are turning this work over to a special class, they must not forget that the only motive which this special class has for doing this special work is the hope of a profit. If they can make a profit and still furnish the service cheaper than producers and consumers can furnish it for themselves, they have earned their profit.

Cornering, or monopolizing, is destructive of utility. We should be careful, however, to distinguish between storing for sale on a competitive market and monopolizing for sale on what is known as a cornered market. If there were collusion among all those who own warehouses or who are in a position to store products, — an agreement to control the supply and fix prices artificially, — there would be a real grievance, and the individuals who are guilty of such a practice should of course be very severely dealt with. But if we can once satisfy ourselves that there is no collusion or attempt at monopolization, that the products are being stored for sale on a competitive market, we can rest perfectly easy in our minds, because no one could make any money by storing in this way unless it were genuine social service to do so. By social service, of course, we do not mean philanthropic service, but merely useful work.

Standardization. Another very important function performed by the mercantile class is what is known as the classification or standardization of goods. The producer of farm products especially cannot produce goods of uniform kind and quality. On every apple tree there will be apples of various grades, and in every large orchard likewise. In every poultry yard there will be fowls of different qualities. The consumer who tried to purchase directly from the farm might not find exactly the grade or quality which he desired. When the farmer sells his products in bulk, the middleman will frequently classify or grade them into a large number of grades. Take such a simple product, for example, as broilers. It is very difficult for one poultryman to produce a large number of broilers all of the same size, weight, quality, and general condition. A hotel or restaurant, however, wishes to treat all customers alike. It does not wish to buy broilers in a nondescript, or ungraded, mass. If it did so, one customer would get one kind of dish and another customer another kind, varying in size and quality. This would produce dissatisfaction. A dealer buys broilers from a large number of poultrymen and classifies them very minutely. There are said to be over one hundred different grades and classes. Each hotel and restaurant, and every private consumer, can get from such a dealer exactly what he wants. Multitudes of other illustrations could be given, but enough has been said to show that merchandising is a very important factor in the economy of human energy and the promotion of national prosperity.

Deception always destruction. It is quite certain, however, that certain practices will grow up in connection with merchandising which are reprehensible. The ancient Greeks regarded Hermes, or Mercury, not only as the herald of the gods but also as the god of boundaries, markets, and weights and measures, and as the special patron of merchants, gamblers, and thieves. There is probably no other branch of human industry or business which lends itself so easily to deception and

adulteration, and which furnishes such temptations to high-pressure advertising and salesmanship. The old adage that honesty is the best policy is doubtless appreciated by merchants of the better class, but unfortunately there are always a good many men who are doing some kind of merchandising, to whom this adage seems more theoretical than practical. The arts of persuasion are developed to a high degree of proficiency, and pass easily over into the arts of deception. The justification given is generally summed up in the words, "business is business." It is not necessary to present any arguments to show that deception contributes nothing to national prosperity. What one gains by deception, someone else necessarily loses. It is probably this phase of the question that has led to the hasty conclusion, which is far too widely accepted, that somebody always loses in a trade. That general conclusion was combated at the beginning of this chapter. In so far as trading takes the form of deception, however, the conclusion is entirely justified.

Advertising. Advertising occupies a prominent place among the forms in which the art of persuasion is carried to a high state of development in modern times. To what extent advertising is economically justified has been a difficult question and must remain so. Advertising is sometimes educational. The individual sometimes learns from advertisements where he can get something which he really wants and has wanted for a long time. Without the advertisement he might have found difficulty in getting it. This applies, however, mainly to new products that have recently been put upon the market. One scarcely needs an advertisement to tell one of the existence of soap or codfish, or to acquaint one with the fact that such things are to be purchased at stores. In many cases of this kind the only effect of advertising is to persuade the consumer to use one man's product rather than another's. One producer realizes that if he does not advertise, consumers may buy the other man's product. The other man is then compelled to advertise in order to defend himself against the first

advertiser, and thus it becomes a race, or contest, to get the customer's trade, and no addition whatever is made to the national wealth or to the well-being of society. It is not improbable that eventually the public will exercise its authority and use its power of compulsion to limit or redirect the advertising business. This, however, would be a somewhat dangerous experiment, because such public authority would have to be exercised by public officers. The worst forms of advertising are not found among merchants but among candidates for public office. The man who has succeeded in getting elected to office by campaigning, which is a kind of advertising, is not necessarily the best man to decide upon what is good and what is bad advertising either in political campaigning or in merchandising.

CHAPTER XXI

PERSONAL AND PROFESSIONAL SERVICE

Causing productivity in others. Falstaff said, "I am not only witty in myself, but the cause that wit is in other men." There are many men and women in every community who are not directly producing wealth, but who are the cause of productivity in others. The teacher who trains students in the productive arts is, to say the least, a cause of productivity, and becomes a contributor to national prosperity. The singer, the poet, and the artist who inspire to strenuous action and noble deeds likewise contribute their share to the greatness of the nation. The military band is a part of the fighting strength of the army, even though its members never handle a destructive weapon of any kind.

The teacher, the preacher, the musician, the poet, and the artist, however, sometimes forget their function in a great nation and at times seem almost to imagine that they are the objects for which the nation exists. At any rate they have been known to go so far as to resent the idea that they have a purpose beyond that of contributing to knowledge for its own sake or art for its own sake.

The social function of art, religion, etc. Quite different was the attitude of a great French artist when he found his country in the throes of the life-and-death struggle which began with the invasion of 1914. Speaking before a gathering of French artists, he said that in that crisis no art would be tolerated "which was not noble, robust, proud, and an inciter of high thoughts and delicate sentiments — an art of heroic joy." Facing the future, he continued: "You would not tolerate anything less to-day. Then why should you tolerate anything less

hereafter, in that to-morrow when our duties shall be changed?" Here was a full acceptance of the view that art has an end beyond itself and is not its own excuse for being.

Government. The officers of the government who preserve order and protect lives and property contribute a large share to national prosperity. An army, whose business may seem to be destruction rather than production, by protecting against invasion from without and insurrection and disorder from within may be an indispensable factor in prosperity.

It is of course possible to have too many so-called non-producers, not only in the army but in public offices of different kinds, as well as in the various talking and ornamental professions. The work of the soldier, for example, is one of the most honorable of all professions so long as national defense is necessary; but even the professional soldier himself will generally agree that it would be an excellent thing if war could be eliminated and the work of the soldier made unnecessary. The same reasoning may be applied to many other occupations. No work is more beneficent and honorable than that of the physician; but every physician, if he is worthy of the name, is working for the elimination or prevention of disease. If it were possible to carry this work to completion, it would greatly reduce the need for physicians. Litigation among the citizens of the nation is, so far as it goes, almost as wasteful as war between nations. If it could be eliminated, it would greatly reduce the demand for lawyers. An army of very able and talented men would thus be released for other kinds of work for which the need persists. The best lawyers, like the soldiers and physicians, frankly recognize this and are willing to work to reduce the amount of litigation.

Productive and unproductive labor. Economists have generally recognized a distinction between productive and unproductive labor, but they have not always agreed as to the line of division. Adam Smith[1] wrote:

[1] The Wealth of Nations, Vol. I, pp. 332–334. Clarendon Press, Oxford, 1880.

There is one sort of labor which adds to the value of the subject upon which it is bestowed: there is another which has no such effect. The former, as it produces a value, may be called productive; the latter, unproductive labor. Thus the labor of a manufacturer adds, generally, to the value of the materials which he works upon, that of his own maintenance, and of his master's profit. The labor of a menial servant, on the contrary, adds to the value of nothing. Though the manufacturer has his wages advanced to him by his master, he, in reality, costs him no expense, the whole value of those wages being generally restored, together with a profit, in the improved value of the subject upon which his labor is bestowed. But the maintenance of a menial servant never is restored. A man grows rich by employing a multitude of manufactures: he grows poor by maintaining a multitude of menial servants. The labor of the latter, however, has its value, and deserves its reward as well as that of the former. But the labor of the manufacturer fixes and realises itself in some particular subject or vendible commodity, which lasts for some time at least after that labor is past. It is, as it were, a certain quantity of labor stocked and stored up to be employed, if necessary, upon some other occasion. That subject, or, what is the same thing, the price of that subject, can afterwards, if necessary, put into motion a quantity of labor equal to that which had originally produced it. The labor of the menial servant, on the contrary, does not fix or realise itself in any particular subject or vendible commodity. His services generally perish in the very instant of their performance, and seldom leave any trace or value behind them, for which an equal quantity of service could afterwards be procured.

The labor of some of the most respectable orders in society is, like that of menial servants, unproductive of any value, and does not fix or realise itself in any permanent subject, or vendible commodity, which endures after that labor is past, and for which an equal quantity of labor could afterwards be procured. The sovereign, for example, with all the officers both of justice and war who serve under him, the whole army and navy, are unproductive laborers. They are the servants of the public, and are maintained by a part of the annual produce of the industry of other people. Their service, how honorable, how useful, or how necessary soever, produces nothing for which an equal quantity of service can afterwards be procured. The protection, security, and defence of the commonwealth, the effect of their labor this year, will not purchase its protection, security and defence for the year to come. In the same class must be ranked some both of the gravest and most important, and some of the most frivolous professions: churchmen, lawyers, physicians, men of letters of all kinds; players, buffoons, musicians, opera-singers, opera-dancers, etc. The labor of the meanest

of these has a certain value, regulated by the very same principles which regulate that of every other sort of labor, and that of the noblest and most useful, produces nothing which could afterwards purchase or procure an equal quantity of labor. Like the declamation of the actor, the harangue of the orator, or the tune of the musician, the work of all of them perishes in the very instant of its production.

Both productive and unproductive laborers, and those who do no labor at all, are all equally maintained by the annual produce of the land and labor of the country. This produce, how great soever, can never be infinite, but must have certain limits. According, therefore, as a smaller or greater proportion of it is in any one year employed in maintaining unproductive hands, the more in the one case and the less in the other will remain for the productive, and the next year's produce will be greater or smaller accordingly; the whole annual produce, if we except the spontaneous productions of the earth, being the effect of productive labor.

John Stuart Mill[1] makes use of the same distinction in the following paragraphs, though he modifies it so as to allow for labor which is mediately, or indirectly, productive.

LABOR IS INDIRECTLY AS WELL AS DIRECTLY PRODUCTIVE

I shall therefore, in this treatise, when speaking of wealth, understand by it only what is called material wealth, and by unproductive labor only those kinds of exertion which produce utilities embodied in material objects. But in limiting myself to this sense of the word, I mean to avail myself to the full extent of that restricted acceptation, and I shall not refuse the appellation productive to labor which yields no material product as its direct result, provided that an increase of material products is its ultimate consequence. Thus, labor expended in the acquisition of manufacturing skill, I class as productive, not in virtue of the skill itself, but of the manufactured products created by the skill, and to the creation of which the labor of learning the trade is essentially conducive. The labor of officers of government in affording the protection which, afforded in some manner or other, is indispensable to the prosperity of industry, must be classed as productive even of material wealth, because without it, material wealth, in anything like its present abundance, could not exist. Such labor may be said to be productive indirectly or mediately, in opposition to the labor of the ploughman and the cotton spinner, which are productive immediately. They are

[1] Principles of Political Economy (from the Fifth London Edition), Bk. I, Chapter III, p. 76. New York, 1909.

all alike in this, that they leave the community richer in material products than they found it; they increase or tend to increase material wealth.

By unproductive labor on the contrary, will be understood labor which does not terminate in the creation of material wealth; which, however largely or successfully practised, does not render the community and the world at large richer in material products, but poorer by all that is consumed by the laborers while so employed.

All labor is, in the language of political economy, unproductive, which ends in immediate enjoyment, without any increase of the accumulated stock or permanent means of enjoyment. And all labor, according to our present definition, must be classed as unproductive, which terminates in a permanent benefit, however important, provided that an increase of material products forms no part of that benefit. The labor of saving a friend's life is not productive, unless the friend is a productive laborer, and produces more than he consumes. To a religious person the saving of a soul must appear a far more important service than the saving of a life; but he will not therefore call a missionary or a clergyman productive laborers, unless they teach, as the South Sea Missionaries have in some cases done, the arts of civilization in addition to the doctrines of their religion. It is, on the contrary, evident that the greater number of missionaries or clergymen a nation maintains, the less it has to expend on other things; while the more it expends judiciously in keeping agriculturists and manufacturers at work, the more it will have for every other purpose. By the former, it diminishes, *cæteris paribus*, its stock of material products; by the latter it increases *cæteris*.

Both these eminent writers seem to look upon the production of vendible commodities, either directly or indirectly, as the end of economic activity. From that point of view, even cheap and tawdry articles which are of no use to anyone, as a puritanical moralist would say, are nevertheless wealth, and the labor which produces them is productive labor. On the other hand, the philosopher who elevates our thoughts above the plane where such things are enjoyed would be an unproductive laborer. And yet this philosopher might be doing infinitely more for the ultimate prosperity and greatness of the nation than the manufacturer of such articles.

There is, however, something finely democratic in the attitude of these writers. It assumes that whatever the people want, as

expressed either by their votes or by their purchases, they are entitled to have, and that no one, not even the philosopher, should set himself up as a moral censor. Their judgment, as expressed through their purchases of vendible commodities, is the final word in such matters. Only such labor as supplies, either directly or indirectly, things which the people are willing to purchase is to be regarded as productive according to their point of view.

Distinction similar to that between producers' and consumers' goods. Another and more satisfactory way of looking at this distinction between productive and unproductive labor is to compare it with the distinction between producers' and consumers' goods. It would not occur to anyone that a writer was disparaging bread if he were to say that it is a consumers' good and not a producers' good. To say that a sewing machine is a producers' good, while a coat is a consumers' good, is not necessarily to place the machine in a superior class and the coat in an inferior class. And yet to say that a coat is a consumers' good may mean very much the same as to say that it is an unproductive good. In the above passage Mill distinctly states that unproductive labor is not necessarily useless labor.

Much of that which these writers include under unproductive labor may, however, be productive even in the technical sense in which they use that word. A menial servant, for example, who saves the time of his employer and enables him to devote his energies exclusively to highly productive work really contributes to the production of vendible commodities, even though he himself has no direct connection with any such article; but if a menial servant or anyone else merely helps a man of leisure to while away his idle hours by furnishing amusement or entertainment, his work can scarcely be called productive in any sense.

Wherein labor contributes to national prosperity and wherein it does not. After all, the important distinction is not between the labor which produces vendible commodities and that which does not. The distinction of real importance is that between

labor which contributes to the well-being, prosperity, and greatness of the nation and that which does not. Labor may produce a commodity which sells for a high price on the market, — which satisfies an intense desire which people will pay a high price to have gratified; and yet, if the desire is a vicious one, if its gratification weakens in mind or body those who buy it, or if it merely incapacitates them temporarily for useful work, that labor would have to be classed as unproductive. On the other hand, the labor of the musician, the poet, or the preacher, if it does not tend to produce softness, but inspires to strenuosity and productivity, if it rationalizes the consumption of wealth, if it makes people desire the right things, would have to be classified as highly productive. To be sure, a book, a poem, or a picture is a vendible commodity, and its producer would be called a productive laborer under the classic definition. If one wanted to insist upon it, one might go so far as to say that the sound waves produced by the musician or the talker are also material things and vendible, but it is not necessary to go so far as that.

This distinction not so clear as the other. One disadvantage in the position which we are taking in favor of the view that the important distinction is that between labor which adds to the well-being of the nation and labor which does not, is that it leaves a great deal to the opinion of the student. Whether labor produces a vendible commodity or not is generally a question of ascertainable fact. Whether it is good for the nation or not is sometimes a matter of opinion. There could scarcely be any denial, for example, that a distillery produced a vendible commodity, but there has been a great deal of difference of opinion as to whether it was a benefit or an injury to the nation. On the other hand, it could scarcely be claimed that a moral leader who persuaded people to become total abstainers was producing vendible commodities, but there are those who hold to the opinion that he is contributing to the general well-being of the nation.

Granting the advantage, from the standpoint of clearness, of the classical distinction between productive and unproductive labor, the present writer nevertheless contends that the distinction between that labor which is beneficial and that which is not is much more important. Probably as large a proportion of the labor which is engaged in producing material commodities for the market is wasted as of the labor which is not so engaged. Probably as large a proportion of that labor which is not engaged in producing material commodities is advantageous to the nation as of that which is so engaged. The prosperity and well-being of the nation will depend upon the proportion of the people who are doing useful work rather than upon the proportion that are producing material commodities.

All labor which is not engaged in the production or handling of material commodities which are bought and sold on the market is grouped, not only in this chapter but in various census reports and other public documents, as professional and personal service. Professional service is limited to a few learned or highly skilled occupations such as law, medicine, theology, teaching, governing, acting, etc. Personal service includes such a multitude of occupations as would fill a small catalogue. Barbers, bootblacks, valets, domestic servants, who render their service directly rather than indirectly through the medium of a material product, may be said to render personal service. If it is genuine service, whether it is professional or personal, it is a factor in the prosperity, power, and greatness of the nation.

PART THREE

EXCHANGE

Which has to do with the buying and selling of commodities

CHAPTER XXII

VALUE

Exchange a part of the division of labor. In the chapter on the Division of Labor it was pointed out that there is a great advantage to be gained from specialization. When the whole industrial society is so organized that each person can do that for which he is best fitted by nature, training, inclination, and location, the general quality of the work is better than it would be if everyone had to learn a great many things. It was also pointed out that the division of labor necessitates the exchange of products and services. In the economics of the private family the subject of exchange is so unimportant as to be ignored altogether. Within the family a sort of primitive communism exists, so that even though there may be a division of labor among the members, there is practically no trading or bartering among them. In the larger industrial society, however, unless it is organized also on a communistic basis, there is a great deal of trading, bartering, and exchanging. Therefore exchange has come to be one of the most important departments of the subject of public economics, or political economy. Our whole system of trading, transporting, and merchandising is a necessary part of an industrial system which is characterized by the division and specialization of labor.

Valuation a part of exchange. An important part of this intricate system of exchanges is the process of valuation, or the evaluating of goods and services. It would be difficult to do very much exchanging without beginning to think in terms of value. In fact, even in the simplest case of barter, as when boys swap marbles, each barterer in his mind compares the desirability of the objects that are to be exchanged. To compare

the desirability of the objects is to think in terms of value. In its original and individual sense the value of a thing was the esteem in which it was held; in a somewhat more highly developed, or social, sense the value of a thing was the esteem in which it was held by all those who were interested in it. When men in considerable numbers were evaluating and comparing the same group of commodities, a market was said to exist. Where a market existed for an object, its value was the esteem shown for it on the market. The sign, or symptom, of that esteem is the fact that men were making sacrifices in order to get the object; that is, they were either laboring to get it or they were giving up other desirable things in exchange for it.

Value in exchange. This willingness to give something — either labor or another desirable object — in exchange for a thing has finally come to be regarded by most writers as the value of the thing, instead of being, as originally, merely as the sign, or symptom, of the esteem in which it was held. A brief but satisfactory definition of market value, or of value as it is understood on the market and in commercial circles, is "power in exchange." Under this definition the value of an article is the power which it confers upon its owner to command other desirable things in peaceful and voluntary exchange. There has come, therefore, a change in the popular meaning of the word *value*. In modern usage the esteem in which the object is held, or the desire which is felt for it, is that which *gives* it value instead of *being* the value itself.

When value is defined as power in exchange, it must not be confused with a mere ratio of exchange. A thing which confers upon its owner the power to command other things in peaceful and voluntary exchange has power or influence over the minds of men; it influences their choice and gets them to do things which they would not otherwise do. Within certain limits, it exercises control, or at least influence, over motives. Of course, when things exchange against one another,

it must always happen that they exchange in certain ratios; but the ratio is merely incidental and is not the essential characteristic of value.

To value is to esteem. The purchasing power, or value in exchange, of an object is not always proportional to the esteem which is felt for it, or the intensity of the desire for it. Among wanderers on a desert a small portion of water would be exceedingly precious; but if none of them had anything to give in exchange for it, it would not have much purchasing power. It would not have much market value; that is, its owner would not realize very much from its sale. It would, however, be held in the very highest esteem; it would be intensely desired; it would have great power over human motives; men would go to any length to get it; and if they had many things to give in exchange for it, it would have great power in exchange. The situation of some thirsty men on a desert with nothing to give in exchange for water is, however, very unusual. In the ordinary market place, men have something to give for whatever they desire most. The thing which is intensely desired, esteemed, or appreciated will, under such circumstances, always command many other desirable objects in peaceful and voluntary exchange.

Some writers have attempted to remove this difficulty by distinguishing between value in use and value in exchange. The tendency of later writers is to do away with this distinction. Value in use is nothing except utility, whereas value in exchange is simply value. There is, however, a very close connection between utility and value. Utility is the power to satisfy a want or gratify a desire, but value is the power to command other desirable things in peaceful and voluntary exchange. Value depends upon utility, since nothing could have value unless it had the power to satisfy a desire of some kind. In other words, nobody would give anything in peaceful and voluntary exchange for the article in question unless he desired it. On the other hand, however intensely he might desire it, if he had nothing to give in exchange for it, and everyone else were

in the same condition, it would not have much power in exchange. The water in the foregoing illustration would have great utility but no great value, — certainly no great market value.

Censorious criticisms upon market value. There is, however, still another sense in which both *value* and *utility* are sometimes used. One who has strong ideas on the subject will sometimes assert that a given commodity is "really worth" very little, even though everybody seems to desire it and to be paying a high price for it, or that it is "really worth" a great deal, even though no one else seems to esteem it or to be willing to pay much of anything for it. In this case the speaker is assuming the function of a moral or economic censor and is passing judgment upon the desires of the people. His judgment may be sound and that of the multitude unsound, or vice versa. There are, however, always those who have ideas on the subject of "real" value as opposed to market value, and of real utility as opposed to the popular idea of utility. Their idea of "real" utility is the power to satisfy a commendable desire, whereas economic writers have generally, though not universally, defined utility as the power to satisfy any sort of desire.

Distinction between value and price. Value should also be distinguished from price. The price of an article, as has been explained many times by economists, is merely its value expressed in terms of some single commodity which the community has generally agreed upon as the measure of value and the medium of exchange. This commodity is usually money. Whenever the word *price* is used, if it is used properly, it means value expressed in money, or the amount of money which will exchange for a given article. Wherever the word *value* is used, at least in connection with the general conditions of the market, it means its general power in exchange against other articles, of which money is only one. The cheapening of money tends to create a general rise in prices but not a general rise in price values.

To summarize, the economic value of an object is variously defined as

1. Its price, that is, the amount of money for which it sells;
2. Its utility, which may mean
   a. Its power to satisfy any desire,
   b. Its power to satisfy a commendable desire;
3. Its power to affect the well-being of
   a. An individual,
   b. Society, or the nation;
4. Its power over human motives,
   a. Causing men to exert themselves in order to get it,
   b. Causing men to give other desirable things in exchange for it, because of
      (1) The intensity of their desire for it,
      (2) The abundance of other desirable things in their possession.

Since we are here concerned with the general problem of exchange and market value, the last of these four definitions will be used in this chapter. If we may accept "power in exchange" as a good working definition of market value, or value as it is used on the market and in our general system of exchange, several questions will at once arise. One of these is, Why do some things possess this power and others not? Another is, Why do some things possess more of it than others? Or, again, Why does the same thing possess more of it at one time or place than at another?

Value attaches to concrete things. Not much headway can be made in answering any of these questions, until we clear the way by certain necessary explanations. Some of these explanations can be understood only after some very hard and clear thinking. In the first place, we must distinguish between things in general and concrete units. It is one thing to speak of the value of bread in general; it is another thing to speak of the value of a loaf of bread. It is one thing to speak of the value, or the lack of value, of air in general, and another

thing to speak of the value, or lack of value, of a given cubic yard of air. If one will look around and see what is going on, one will notice that men are not exchanging things in general, but only concrete units or quantities of things, — not wheat in general, but a given number of bushels of wheat of a given grade; not money in general, but a given number of dollars, francs, or pounds; and even if air or water were exchanged, it would not be air or water in general, but some cubic yards or gallons in definite numbers.

This distinction between things in general and concrete units or quantities will eliminate forever the confusion that sometimes results when that distinction is not made. For example, we are sometimes told that air is of immeasurable utility, and yet it has no power in exchange. If one will think, however, not of air in general but of a definite cubic yard of air which may be boxed up (it might even be offered for sale), and then if one will ask one's self how much utility to him is possessed by that particular cubic yard of air, he will find that it is of no use to him whatever. If it were of any use to him, that is, if he would be any better off with it than without it, he would be willing to give something in exchange for it; it would then possess value, or power in exchange.

Total utility and final, or marginal, utility. This means, in other words, that there are two distinct ideas of utility: one is total utility and the other is sometimes called specific, sometimes final, and sometimes marginal utility. We gain an impression of the total utility of air when we think what would happen to us if all the air in existence were suddenly annihilated, or if we individually were shut off from access to air. From this point of view the total utility of air is incalculable. But if we were to consider what would happen if a definite cubic yard were annihilated or if we were shut off from access to it, we get a very different impression. As a matter of fact, it would make no difference to anybody, because there would be enough left to satisfy completely every desire for air.

In this world of adjustment, improvement, and progress, or of maladjustment and retrogression, the problem of having more or of having less of various things is always the important problem. How desirable is it that there should be more air than there is, or how undesirable is it that there should be less air than there is? Apparently this is a matter of indifference. It is for this reason that in a practical, workaday world, where we are trying to improve our condition or to prevent it from becoming worse, our interest in material things centers in the question as to how, through them, we can increase our well-being. Can we, for example, by increasing the quantity of a certain commodity, improve our condition, or can we not? If we can, then we have an excellent reason for trying to increase our supply. If we cannot, there is no such reason. No social utility would be promoted by increasing the supply of air or by offering a price for increasing it. There is, therefore, no social or individual reason why it should possess any value or any power in exchange. On the other hand, if you think of an article of which you can say that you would be better off if you had a little more of it, or worse off if you had a little less than you have, you have a perfectly good individual reason for increasing your possession. Or if the community can say that it would be better off if it had more of it, or worse off if it had less, then the community would have a perfectly good reason for desiring to increase the supply. This is the case with everything which has value. If the community thinks that it would be better off if it had more of it or worse off if it had less, the article in question will have value.

A moral philosopher might conclude otherwise; that is, he might think that the desires of the people were vicious and that they would be worse off if they had more of a certain article, whereas they themselves think they would be better off if they had more of it. It is the desires of the multitude rather than the conclusions of the moral philosopher which determine market value. This may be called a

functional theory of value. The function of value in a society is to induce producers to produce. It is a symptom that more of the article possessing value is wanted. It is, at the same time, a means of getting more; that is, if people will offer desirable things in exchange for an object, someone may be induced to produce it.

The first law of the market. The first law of the market is that things of the same kind and quality tend to have the same value at the same time and place. That is to say, at any given time and place, if there are a large number of units, all exactly alike and equally desirable, they will all tend to sell at the same price and have the same power in exchange. If they are unlike, some of them being more desirable than others, of course some will have more power in exchange than the others. Again, the values may, on a feverish market, change from minute to minute, that is, so rapidly as to create the illusion of selling at different prices at the same time. Or, again, in different portions of the same market similar things sometimes sell at different prices. The tendency, however, is toward a uniform price at the same time and place. Where a commodity has become standardized so that there are many units that are equally desirable, it has become customary to buy the article by quantity, without taking the trouble to pick out the specific units desired. Wheat, coal, cotton, pig iron, and many other commodities are so graded and standardized as to sell in this way. On the other hand, there are a great many commodities that are not easily standardized. In these cases the purchaser will usually insist on picking out the individual units which he desires. Race horses, dwelling houses, farms, building lots, and a multitude of other things will probably always have to be bought and sold in this way.

A thing has value only when someone wants it. A concrete article of the kind just described, or a definite quantity of a standardized article, will have power in exchange, of course, only on condition that somebody happens to desire it.

No one will give any desirable thing in peaceful and voluntary exchange for something which he does not desire to possess. Again, the quantity of value which a thing will possess, that is, the number of other things which will be given in exchange for it, depends on how much it is desired in comparison with those other things. If the article in question is very much wanted and a number of other things are not much wanted, then a considerable quantity of these other things will be given in exchange for it.

Two reasons why a thing may not be wanted. The next question is, Why are some things desired and others not? And why are some desired more than others? There are two primary reasons why an article may not be desired at all. In the first place, it may possess no total utility; that is, there may be no use to which it can be put, so far as anyone knows. There are not, however, very many such things. The other reason is that there are so many other things just like the one in question as to more than satisfy the desire. Where water is very scarce the desire for it becomes intense; where it is abundant, the desire is completely satiated, so that if a specific barrel or gallon of water were offered for sale, no one would desire it at all. In such a situation water would have as little value as though there were no possible use to which it could be put.

One might go even farther and name articles which, though capable of satisfying desires or of being put to important uses, have yet become worse than worthless, — that is, have become nuisances through their overabundance. Many of the weeds which infest our fields belong in this class. Water in a swampy region also comes to possess a negative value, — that is, men will go to considerable expense to get rid of a part of it, — and yet it may be perfectly good water, capable of contributing not only to human life but to plant and animal life as well. Rabbits in Australia and English sparrows in America will serve as further illustrations.

A commodity has value only when there is not enough of it. We therefore reach the general conclusion that an article (that is, a definite object, such as may be bought and sold) has value only when it is wanted, and that it is wanted only when there are so few objects like it as to leave the desire for it partially unsatisfied. If there are so many others like it that the desire is completely satiated, the object in question will not be wanted at all; and that holds true of each and every one considered singly. But if there are not enough to go round and satisfy everybody, each and every such object will be desired and will consequently have a value.

Following the same line of reasoning, we may reach the further conclusion that an object has much value when it is much desired, that is, when there are many people who desire it and each one desires it intensely; it has little value when it is not much desired, that is, when there are few people who desire it or when they who happen to desire it, desire it with a low degree of intensity. Its power in exchange as compared with other things will depend on how intensely it is desired in comparison with other things.

Physiological basis of the law of demand and supply. The great law of supply and demand is thus seen to have a physiological and psychological basis. The expression "supply and demand" is merely a formula; back of this formula there is the physiological fact pointed out in Chapter II. Every desire is satiable, and the more nearly the desire approaches the state of complete satiation, the less intense it becomes. Thus the reason that any superabundant article under ordinary circumstances has no value is because it is so abundant that every desire is completely satiated. That is the reason why water has little or no value in a well-watered country. Wherever it is so scarce that the desire for it is not completely satiated, as is the case in an arid climate where people are trying to farm, it has a value. It is the physiological or psychological state of the desire which furnishes the real basis for the law of supply

and demand. With a given demand, the greater the supply the more nearly all desires will approach the point of satiation, and the more indifferent everyone's attitude toward the object becomes; on the other hand, the smaller the supply, the more intense the desire for each unit of that supply, and the more anxious men are to get it.

As there are two reasons mentioned above why an object may not be desired at all, there are also two similar reasons why the desire for it may be one of little intensity. In the first place, the possible uses to which the object may be put may be of very little consequence to anybody; it may gratify a mere whim or caprice. In the second place, the supply may be so great that the desire is almost completely satisfied, and in this case no one will care very much about getting more than he has, nor will anyone give very much to get more. Under either set of circumstances no one gains very much in the way of satisfaction or well-being if some producer adds to the supply; no one loses very much if some destroyer subtracts from the supply. This may seem very simple, but it is one of the most important considerations in the whole field of economics; for the same law of value, as we shall see when we take up the study of distribution, applies to the labor of men as well as to material commodities. There are the same fundamental principles underlying the law of supply and demand in one case as in the other.

The relation of utility to value. When we say that an object has value only when it is wanted, we are virtually saying that it has value only when it has utility, for utility is by definition the power to satisfy a want or a desire. Whether that want be physiological, like hunger, or whimsical, like the desire for the latest novelty, does not affect the case in the ordinary economic sense. Economists have generally refrained from passing moral judgment on the quality of desires, though there is a tendency to depart from this tradition. If the gratification of a vicious desire does harm in the long run, it tends to

destroy the well-being and prosperity of the community. This is a consideration of great economic importance. The tendency, however, in a democratic society has been to assume that, whatever the people happen to like, it is their affair and not the affair of the economist or the moral philosopher. If there is a popular demand for a cheap and tawdry article, or for demagogical politics, there would seem to be equally good reasons in either case for saying that the people should have what they like. To set one's self up as a moral censor, to pass judgment on the desires of the people either in commercial or in political affairs, has generally been considered undemocratic. Under the impulse of this rather extreme ideal of democracy, utility has been defined, as stated above, as the power to satisfy desires, whether the desires be good, bad, or indifferent. Any object, therefore, which possesses utility, or the power to satisfy a desire, possesses one of the essential factors in value.

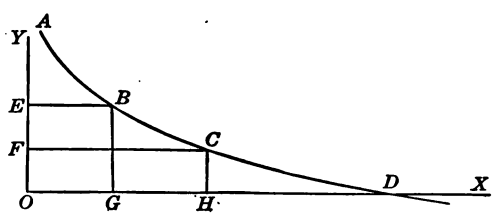
Meaning of scarcity. When we say that an article has value only when the desire for it is left unsatisfied, we are virtually saying that it has value only when it is scarce. Scarcity is by definition insufficiency to satisfy desires. A thing may be rare without being scarce; that is to say, however little there may be of a certain article, if that little is more than sufficient to satisfy all desires, it can hardly be said to be scarce; or however much there may be of a thing, speaking absolutely, if there is not enough to satisfy all desires, it is said to be scarce. Flies in the winter time may be rare, but they are not scarce in the technical economic sense, since even then there are more than are wanted. Speaking absolutely, there may be more grass than weeds on a given farm, but relatively to the farmer's desires, grass may be scarce while weeds are superabundant. If we assume that the article in question is appropriable, or capable of being possessed and enjoyed, and not, like the moon, entirely beyond our reach, we may say that anything which possesses both utility and scarcity will have power in exchange, and nothing else whatsoever will have that power.

The utility of an article is the basis of the demand for it; the scarcity of the article is the measurable limit of its supply. Every boy knows that the first apple which he eats at any one time tastes better than the second, provided they are alike, and the second better than the third, and so on. He knows also that, however capacious his appetite, if the supply of apples holds out, he will ultimately reach a point when he does n't care for any more; in other words, he will reach the point of complete satiation so far as apples are concerned. When this point is reached, apples have lost their utility for him, and he becomes indifferent to them. He may still be willing to give something in exchange for them in anticipation of to-morrow's hunger, but if he has a supply sufficient to satisfy not only present but future desires, then he becomes absolutely indifferent and gives nothing in exchange for them.

Social value. We now approach a secondary phase of the law of value. Even though his own desire for apples may be completely satiated, not only in the present but in the anticipated future, his commercial instinct may prompt him to prize them, not because he himself desires to consume them, but because he can trade them to someone else for objects which he himself desires. At this stage he has arrived at the point where he begins to take account of social utility as well as of individual utility. If he perceives that there is in society around him an unsatisfied desire for apples, he may make use of that unsatisfied desire to acquire desirable things in exchange for his own surplus apples. This soul-compelling power, that is, power in exchange, which commodities possess on the market, he is able to make use of to his own advantage. Thus we see a great many men producing articles far in excess of their own needs, because they know that these articles are exchangeable for other things which they need. We see a considerable body of men doing nothing except to trade in objects of general social desire. But the laws which govern social valuation are fundamentally the same as those which govern individual valuation.

There must be somebody in the community round about who has less of the object than he wants; otherwise neither the producer nor the trader would be able to exchange the object for other desirable things.

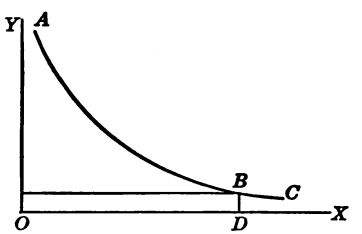
Diminishing utility. The satiability of the desire for a given commodity leads to what is known as the law of diminishing utility, desire and utility being reverse aspects of the same thing. The desire exists in the human being and is that which the object of the desire is capable of satisfying. Utility exists in the object outside the human being and is that which is capable of satisfying his desire. In proportion as the human being's desire is capable of being satisfied, in that proportion does the utility of the object which satisfies that desire diminish as its quantity increases. This diminishing utility of a desirable object is sometimes illustrated by means of a diagram, of which the above will serve as a sample.

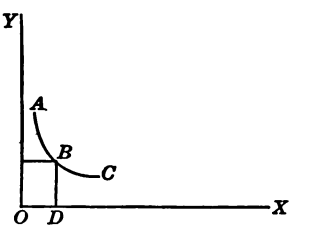


Let us measure the quantity of a certain commodity along the line *OX*, and the intensity of the desire for it along the line *OY*. When the quantity is represented, for example, by the line *OG*, each unit is desired with an intensity represented by the line *OE*; and when the quantity is represented by the line *OH*, the desire is so well satisfied that the intensity of the desire is now represented by the line *OF*. If the quantity were to increase until it was represented by the line *OD*, all desires would be satiated; that is, the desire for any particular unit of the supply would have no intensity, — there would be no desire left. And, finally, if the quantity were to increase still farther, the commodity might be considered as a nuisance, and men might begin to desire to have less of it rather than more. The curve *ABCD* becomes the utility curve according to the

assumptions. Just what shape this curve would take in any individual case would be hard to determine. One thing, however, is certain, — and this is the really essential thing, — that, whatever its shape, it is a descending curve. Its distance from the line *OX* diminishes as we approach the point *D*. That is as certain as that a desire is satiable. Therefore we are safe in using a descending curve to illustrate the decline in the intensity of the desire for a commodity as the quantity of the commodity increases in proportion to the number of people who desire it.

The total utility of the commodity is represented by the surface bounded by the lines *OX*, *OY*, and the curve *ABCD*.





Its marginal utility, that is, the effective utility of any single unit of the supply, is represented by the line *OE* or *BG* when the quantity is *OG*, and by the line *OF* or *CH* when the supply is *OH*.

If now we consider two commodities whose quantities and utilities were represented by the two diagrams above, we shall see how the relative intensity of the desires for the two commodities will affect their relative values.

Let us assume that the curves *ABC* in the two diagrams represent the diminishing intensity of the desire for potatoes and oranges respectively, and the line *OD* in each diagram the available quantity of each commodity. The quantity of potatoes being so much larger than that of oranges, the desire for them is much more nearly satiated than is the desire for oranges, though the total utility of potatoes is much greater; that is to

say, a pound of potatoes out of the total supply is very slightly esteemed or desired, whereas an equal quantity of oranges out of the much smaller supply is more highly esteemed or desired. Under these circumstances a pound of oranges would have as much power in exchange as several pounds of potatoes; that is, oranges are more valuable than potatoes.

By increasing the number of diagrams, the relative power in exchange of a number of commodities could be illustrated in the same way. That, however, would introduce no new principle, but would only complicate matters.

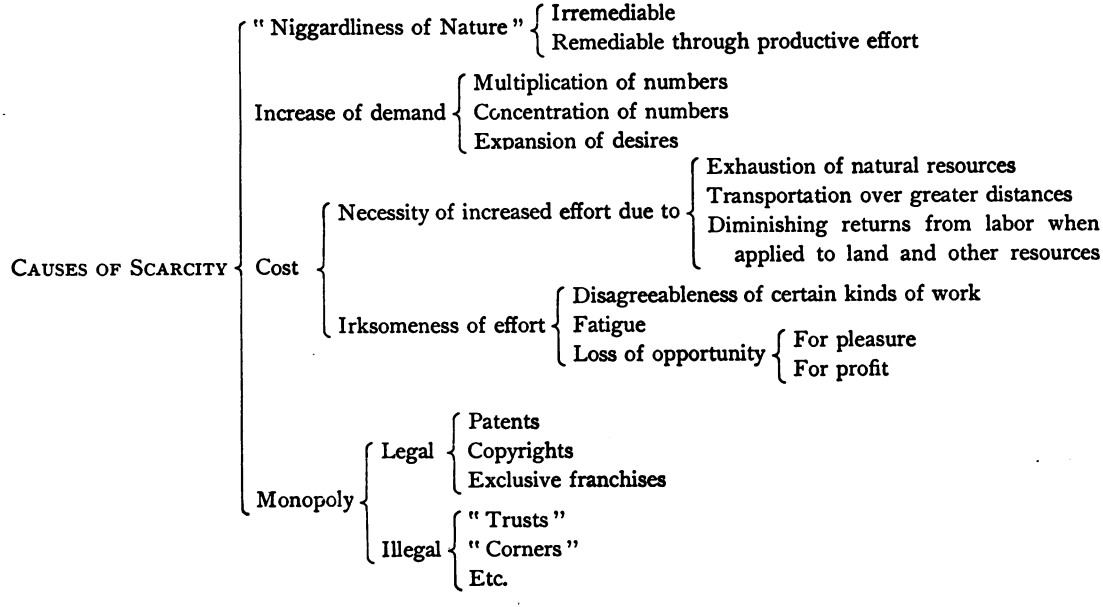
CHAPTER XXIII

SCARCITY

Causes of scarcity. It was shown in the last chapter that commodities must be both desirable and scarce in order to possess value. We have now to inquire why such things are scarce. There are four reasons which come within the limits of our comprehension. These we may call (1) "the niggardliness of nature," (2) the expansion of desires, (3) the cost of production, and (4) monopoly.

"Niggardliness of nature." When the term "niggardliness of nature" is used, it is not intended to cast reflections upon nature, nor to imply that she is not bounteous in many respects. It is merely to call attention to a fact which cannot well be disputed; namely, that in many places men have congregated in numbers greater than nature has there made provision for. Desirable things are scarce in those places at least, and it is at least necessary to bring supplies from other places where there is a surplus. Moreover, there are many things which we desire which nature does not supply at all in the form in which we desire them, though she supplies the raw materials out of which we may make them. Again, some things which we desire can only be produced at certain times and seasons. They must therefore be preserved and kept for other times when they will be needed.

Expansion of desires. The fact that nature does not supply us with everything we desire in the exact forms and at the exact times and places when and where we happen to desire them may be in part due to the fact that we desire more refined products than grow in a natural state, or to the fact that great numbers of us choose to live in places where such


CAUSES OF SCARCITY
"Niggardliness of Nature"
Irremediable
Remediable through productive effort
Increase of demand
Multiplication of numbers
Concentration of numbers
Expansion of desires
Cost
Necessity of increased effort due to
Exhaustion of natural resources
Transportation over greater distances
Diminishing returns from labor when applied to land and other resources
Irksomeness of effort
Disagreeableness of certain kinds of work
Fatigue
Loss of opportunity
For pleasure
For profit
Monopoly
Legal
Patents
Copyrights
Exclusive franchises
Illegal
"Trusts"
"Corners"
Etc.

products do not grow in sufficient abundance. It is only a symptom of the maladjustment between man and nature. It is not necessarily the fault of either man or nature; it is simply a fact of experience, and we must make the best of it. There is, however, a marked tendency for human desires to expand. "When goods increase, they are increased that eat them." In the language of the day, "The richer we get, the more we want." Therefore we must expect an indefinite continuation of the condition wherein some desirable things are insufficient in quantity to satisfy everybody. We shall therefore continue trying to increase the supply of desirable things in the forms in which they are wanted, and at the times when and the places where they are wanted. This is called the production of utilities, or, more properly, the adding of utilities to material things, — form utility, time utility, and place utility.

Cost. If the efforts which we have to make in order to produce utilities were altogether pleasant and not in the least degree unpleasant or disagreeable, there is no reason why most things might not be produced in such abundance as to satisfy everybody completely. Some things, of course, cannot be increased by any human effort. Meteoric iron has long served as an illustration. Autographs of distinguished men of the past, the paintings of old masters, first editions of books, and a number of other illustrations might be given. But if we are speaking of an ordinary reproducible commodity, we are safe in saying that unless there were some difficulty in the way of indefinite reproduction, — some unpleasantness, irksomeness, or fatigue connected with its production, — its supply would certainly increase until everyone had all he wanted of it.

Effort not always irksome. Illustrations are not hard to find of desirable commodities which have to be secured by human effort, but which, because the effort is pleasant rather than unpleasant, become so abundant as to command no price. Trout are generally regarded as a delicacy and are greatly desired. They can only be caught by considerable muscular effort and

by the exercise of great patience and skill. And yet, in certain communities where the demand is not very great and the fishing not too arduous, trout are caught for sport in such numbers as to supply the neighborhood. They become free goods and are given to those who desire them without money and without price. If there were more consumers, or fewer persons who enjoyed the sport of fishing, there would not be enough to go around. Those who did not get as many as they desired would then be willing to pay a price in order to get more. In other neighborhoods, flowers are grown for pleasure. The demand not being very great, and there being a number of people who enjoy gardening, there is such an abundance that everyone is supplied free of charge. Poultry raising is a pleasure to many people if they do not have to work too hard at it. In most neighborhoods, however, there is a demand for eggs and poultry that cannot be completely satisfied with the products of those who keep poultry for the pleasure of it. In order to induce these to produce more than is pleasurable, and to induce others to do the work who do not enjoy it at all, a price must be paid. The price is paid, virtually, to overcome the disinclination of producers.

Cost is disinclination. All the reproducible products which sell on the market, and which are not monopolized, are limited in supply by some form of disinclination or reluctance to carry on the work of production. This disinclination may resemble that which one finds in the average fisherman, gardener, or poultry keeper, to whom the work in small doses is not irksome, or it may be of a different sort altogether. In the case of the fisherman, the gardener, and the poultry keeper, their work may be pleasant rather than unpleasant up to a certain point. Almost anyone likes a certain amount of this kind of work, though some of us are easily satisfied. Beyond that point such work becomes irksome and fatiguing, and we keep at it only on condition that someone pays us for it. Up to that point it was play; beyond that point it literally becomes work.

Opportunity cost. Where two kinds of work are pleasurable and one has to choose between them, the fact that one has to surrender the one form of pleasure in order to pursue the other introduces an element of cost. It is reported of a certain man that he was passionately fond of gardening, but could never stick to it because as soon as he began to dig he found worms, and they reminded him of fishing, of which he was even fonder than of gardening.

In other cases the work is disagreeable from the very start. There is no element of play in it. No one will do any of it unless he is paid for it. In still other cases the work itself would be pleasurable rather than disagreeable up to a certain point, if it were not for the fact that there is something else that one would rather be doing. A boy might not ordinarily mind working in the garden, but when there is a circus in town or a ball game going on, gardening suffers in his estimation by comparison with these other opportunities. Whenever we have to work long hours, there are pretty certain to be many other and more pleasurable things which we would rather do. Having to give up these other opportunities would make our work irksome even if it were not so of itself.

The resistance which has to be overcome in order to get men to work. Cost, or cost of production, is the general name which we apply to the resistance which has to be overcome in order to get a thing produced. The real resistance is the resistance of the human will, as shown by the fact that even though physical effort has to be put forth, so long as the effort is pleasurable it does not have to be paid for As soon as it becomes irksome it has to be paid for. It is a matter of choice, and the price paid is a means of influencing choice. The irksomeness of the effort causes men to choose against putting forth the effort; the price paid for the article causes them to choose in favor of it. Such words as *irksome*, *unpleasant*, or *disagreeable* describe certain efforts as they appeal to the mind. The words *disinclination* and *reluctance* describe the

attitude of the mind toward the efforts which men would not be willing to make unless they were rewarded for it.

Distinction between play and work. The difference between play and work is found just here. Play is effort of both mind and body which is put forth for the sheer pleasure of the effort itself. Work is effort which is put forth for the sake of a reward which is detachable from the effort or the action. Under very favorable circumstances all necessary effort might conceivably take the form of play, and in that case there would be no such thing as cost of production. A community made up of people with very simple habits and very strenuous natures, and in a very favorable environment, might possibly reach such a delectable state. Having very simple habits, the inhabitants of this community would be able to get the greater part of their higher satisfactions out of those things whereof nature is bounteous, such as the sky, the clouds, the verdure, and pleasant company. Living in a very favorable environment, they could produce such things as had to be produced with little effort. Having very strenuous natures, abounding in energy and delighting in effort, they could do the necessary work of production without any disinclination or reluctance. This, however, would be a kind of earthly paradise which we may dream about but are not likely to realize.

Kinds of cost. When we say that the price of an article has to be high enough to cover the cost of production, we really mean that it has to be high enough to overcome the disinclination of men to do whatever is necessary in order to produce it. This disinclination or cost is of various kinds and degrees. Mention has been made of those operations which are inherently disagreeable from the very start. This may be called disutility or pain cost. In other cases there is no disinclination until the work has been carried so far as to produce a sense of fatigue. This may be called fatigue cost. Again, the disinclination may be due to the fact that the work in question prevents us from doing something else which we

would rather be doing. This is called opportunity cost. Opportunity cost arises whenever, in order to do a certain thing, one must give up the doing of something else which would be advantageous or pleasurable to one's self. The advantage which one gives up may be of two kinds: The thing which one gives up may be pleasurable in itself (that is, it may be play or amusement) or it may consist in the opportunity to earn money at some other job. In either case one must be paid for doing the thing in question, even though it is neither painful nor fatiguing; otherwise one will avail one's self of another advantageous opportunity.

Pain cost. Of these three forms of cost, pain cost is, in our day, the least important. In a rude state of society, when conditions were hard and enemies numerous, it may have been different. Nowadays, outside of a few dirty, dangerous, or otherwise disagreeable occupations, there is comparatively little work which is disagreeable in itself. When hours are long, much of it is likely to be fatiguing and irksome for that reason. But as prosperity and well-being increase, and general social conditions improve, opportunity cost comes to play a more and more important part. Even the possession of high wages or a large income creates opportunities for amusement or pleasure which otherwise would not exist. One then finds long hours more irksome than they would otherwise be, not because they are more fatiguing, but because they deprive one of those opportunities for pleasure which one's larger income enables one to enjoy. A well-educated man has more opportunities for the pleasurable exercise of his faculties than an uneducated man; therefore he needs more time in which to do these pleasurable things. If his services are desired, he must generally be paid more in order to induce him to give up these other opportunities. Far more important than that, however, is the fact that a well-trained man has many more opportunities to earn money than an untrained man. Among these opportunities he will choose only the one which he likes

best. Whoever desires his services or his products must therefore bid against all other opportunities which lie before the trained man. Work is not more painful or more fatiguing to the trained man than to the untrained man, but his labor costs more because of the opportunities which he gives up when he decides to do a certain kind of work.

Increasing cost. As population increases or concentrates in certain areas the natural resources of those areas must either be worked more intensively or else the means of subsistence as well as the raw materials of industry must be brought from greater distances. To bring them from greater distances obviously requires greater effort, unless new and improved methods of transportation are invented. Even with the best methods attainable it costs more to haul longer than to haul shorter distances. To work mines harder tends to exhaust them more rapidly. It is also possible to work land so intensively as to exhaust the soil unless great care is taken to put back in the soil as much plant food as is used up by the crops which are taken off. To exhaust either the mines or the soil will obviously make greater and greater efforts necessary if a large population is to be provided for on the same scale as before the exhaustion took place. Poorer mines must be worked, and crops must be grown on poorer soil where more effort is required to get the same crop.

Diminishing returns and increasing cost. Entirely apart from the exhaustion of the soil, however, is the great law of diminishing returns from land. This law, which is one phase of the universal law of variable proportions, will be discussed in detail in a chapter devoted to that subject (see Chapter XXX). For our present purpose it is only necessary to state and define the law.

It is a well-known fact that land yields more per acre under intensive than under extensive cultivation. By intensive cultivation is meant the application of considerable quantities of labor and capital to each unit of land; by extensive

cultivation is meant the application of smaller quantities of labor and capital. While land can be made to yield more when large than when small quantities of labor and capital are used in its cultivation, still there are limits to this rule. In the cultivation of any particular crop there comes a point beyond which it does not seem possible, by any amount of labor, care, or cultivation, to increase the yield appreciably. Long before this point is reached, however, there is a tendency for the land to yield less in proportion to the labor and capital employed, even though it continues to yield slightly more per acre with each increased application of labor and capital to its cultivation.

As a result of this law more effort is required to get from the soil of a given area subsistence for a large than for a small population. Rather than incur the increasing cost of production which would be necessary if an increasing population should attempt to get its subsistence from the same soil, men have uniformly chosen to spread their cultivation over wider areas, thereby incurring increased cost in transportation, or they have resorted to inferior soils within the boundaries of the original area, or they have done both. There is no good reason in the world why they should ever have done either of these things except that which is furnished by the law of diminishing returns. If they could have doubled, trebled, and quadrupled the production on the original area of good soil by merely doubling, trebling, and quadrupling the labor and capital used in its cultivation, there would never have been any reason for extending their cultivation. But when they found that by doubling the labor and capital they did not double the yield, even though the yield did increase somewhat, then they had an excellent reason for extending the area of cultivation.

We have therefore several reasons why increasing effort is necessary to get increasing supplies for an increasing population. The law of diminishing returns is one; the tendency toward the exhaustion of the soil, mines, and other natural resources is another; the necessity of cultivating inferior soils

is another; and that of transporting materials greater distances is still another. All of these, however, are closely joined together, and they mutually determine one another. Add to these the fact that increasing effort becomes increasingly irksome because of increasing fatigue and increasing opportunity cost, and we have what may be known as the law of increasing cost. This law of increasing cost, in turn, is the chief factor in limiting production and keeping the supply of various commodities so scarce as to give them a value.

Monopoly. Among the factors which tend to make commodities scarce nowadays, one of the most important is monopoly. A monopoly is an agency which has sufficient control over the supply of a given commodity to fix its price. Without this control over the supply neither principalities nor powers nor trusts can control prices. Without this control over supply, any attempt to fix prices above that level which would pay the cost of production would merely tempt other producers to enter the field and take the market away from the would-be monopoly. A high price would stimulate the outside and independent producers to increase their output. Until the would-be monopoly is in a position to prevent anything of this kind, it has not won the unenviable privilege of being called a genuine monopoly. Any agency which has succeeded in getting control of the supply of a commodity has become a monopoly, or at least a partial monopoly, whether it likes to be called by that name or not. Aside from the government, probably no such thing as an absolute monopoly exists. A partial monopoly exists whenever an organization exercises sufficient control over the supply of anything to enable it to fix its prices, even within a narrow zone, independently of competition. This means that the power of a partial monopoly over prices is not absolute. It may fix the price somewhat higher, but not much higher, than competition would fix it. Where a monopoly is not absolute, if it attempts to fix prices outside these limits it will create competition and destroy its power to control.

This control may be exercised in two ways: first, the monopoly may decide upon the quantity to be produced, and then sell that quantity for whatever it will bring on the market, allowing the law of demand and supply to fix the price; second, the monopoly may decide upon the price at which it will sell the product, and then produce only as much as can be sold at that price. This is the method usually followed. In either case the supply is limited by the will of the monopoly and not by the cost of production. In a genuinely competitive industry the supply is limited by the cost of production. Producers will stop production rather than sell for any considerable time below the cost of production.

CHAPTER XXIV

MONEY

Money a labor-saving invention. One of the greatest of all labor-saving devices is money. If one will try to imagine the difficulties of carrying on exchange without the use of money, that is, by means of direct barter, one will easily understand how great a convenience money is. Of course, without the use of some kind of money we never could have developed our present highly specialized industrial system, under which each individual does that for which he is best fitted and exchanges his products or services for the products and services of other people who are likewise doing that for which they are best fitted. But even if we could imagine such an industrial system based on barter, the difficulties would seem almost insuperable. The tailor who had made a coat and desired bread in exchange might find difficulty in finding a baker who happened to want a coat; even if he found such a baker, it would be difficult for the tailor to carry home as much bread as the coat would be worth. By some kind of credit system, of course, the baker could credit him with a large number of loaves of bread, to be called for one at a time. The dairyman who had milk to sell would find it difficult to know how to collect payment for the very small quantities which he delivered to the butcher, the baker, the tailor, etc. These difficulties would be so great that in all probability there would be comparatively little exchange. The farmer would have to be his own butcher, tailor, and shoemaker. Each household, in fact, would have to be almost self-sufficing.

So important is the function of money in modern industrial society that some writers have seen fit to divide systems of

economy into two fundamental types, known as the barter economy and the money economy. Certain savage tribes, who live in a state of primitive communism, get along without much exchanging. Their limited commerce with the other tribes is carried on by means of barter; furs and other articles of their own production are exchanged for outside products which they desire. The introduction of money makes possible a great deal of exchanging within the tribe and is supposed to have marked one of the epochs in the economic development of civilized peoples.

Various substances which have served as money. Various commodities or articles have served the purpose of money. The early colonists in America found the Indians using a kind of currency known as wampum or bead currency. The Hudson Bay Company and other companies that traded with the Indians of the interior developed a skin or fur currency, in which the skins of various animals were recognized as standards of value and exchanged at the ratios agreed upon. In ancient times various European peoples accordingly used cattle as currency. In the Homeric poems values are frequently quoted in terms of cattle. A very amusing and at the same time instructive illustration is given in a paper entitled "Rudimentary Society among Boys," by John Johnson in the Johns Hopkins University Studies in History and Political Science, 2d Series, No. 11. In this primitive boy society, butter was used as money.

BUTTER AND PIE IN BOYS' SOCIETY

Commonly the primary object of the hunters is to obtain a handsome collection of curiosities, and to enjoy the satisfaction of possession along with the esteem inspired by success; but occasionally a boy hunts with a purely commercial end in view. I have been told of one who made a practice of exchanging all the eggs he found for the allowance of butter given to his companions at meals. This latter is dealt out to the boys in approximately equal portions of an ounce weight, and is frequently used by them as a means of exchange and measure of value. A flying squirrel has been

known to bring fifteen "butters," and a sling, five "butters." The unit is subdivided once, the fractional piece being known as the "half-butter" and having a purchasing power about equal to that of one cent. Some boys who entered upon the manufacture of taffy obtained the needed butter by buying it from the rest at the price of two cents for one "butter," payment being made, at the option of the seller, either in money or in taffy.

Their transactions are often so complicated that the boys find it desirable to lessen the number of payments of this novel currency, and they employ for this purpose a system of verbally transferring their claims from one to another, somewhat as merchants use negotiable notes. Perhaps A buys a knife from B for ten "butters." B has an outstanding debt of the same amount for marbles, and he transfers to his creditor C his claim against A, who pays to C or to anyone else whom C may designate.

At first glance this use of butter as money seems laughably odd; but in fact it could be easily paralleled by long lists of articles equally far removed from the gold, silver, and paper of our own currency, which have yet served as money in different parts of the world. The wampum of the early Indians is familiar to all readers, and Jevons and Roscher enumerate, among many other substances that have been so used, corn, wolfskins, whales' teeth, and straw mats. The former of these distinguished authors remarks that "it is entirely a question of degree what commodities will in any given state of society form the most convenient currency" and our boy-state being in a condition where butter served the purpose, its citizens adopted that commodity as their money.

Professor H. B. Adams added a footnote to the above which reads as follows:

At Phillips Exeter Academy, New Hampshire, in my day, there was a pie currency in vogue among the boys who boarded in Abbot Hall. Pie was something of a luxury, for it was furnished by "Burnham," the steward, only twice a week. The idea of value in exchange was naturally connected with our Saturday and Sunday allowance of pie; in fact, there was a constant trading of different sorts of pie, a boy offering his mince or custard pie of one week for the apple or pumpkin pie that was to come the next week. Pie debts were, moreover, incurred in a variety of ways, chiefly for services rendered, — for example, by one's chum in making the fire on a cold morning, when it was not his turn, or by one student aiding another in his lessons, etc. Boys would wager their pie sustenance for a week, and sometimes for a month, on a match game of ball. These young barbarians, at their ball play, used to rival the ancient Germans, who, as Tacitus describes, sometimes staked not only their property, but their very freedom in games of chance. What

could be greater recklessness for a hungry boy than to risk his pie for a month on the issue of a game of baseball? In ordinary transactions the unit of pie value at Exeter was the "piece," which was served us on a special plate; but there were as many standards of value as there were sorts of pie, so that in the settlement of a small debt of one or two "pieces," boys sometimes sought to pay their creditors in pie of an inferior or less marketable quality. Poor pie was like trade dollars. Sometimes a creditor would find himself with an embarrassment of riches. If his debtors insisted on paying off their obligations on one day in one sort of pie, he would be obliged to eat up all his perishable substance at once, or to dispose of it at a considerable sacrifice.

So great is the need for money in a society where there is any exchange of desirable articles that almost anything which is commonly used and appreciated may serve the purpose of money. Among primitive herdsmen, cattle meet the conditions. They are universally esteemed and appreciated; they are familiar objects whose value is generally understood, and they are easily transferable. They lack, however, certain other qualities which make modern metallic money convenient.

Qualities which the money material should possess. Jevons, in his "Money and the Mechanism of Exchange," names seven qualities which are desirable in the material of which money is made. They are, first, utility and value; second, portability; third, indestructibility; fourth, homogeneity; fifth, divisibility; sixth, stability; and, seventh, cognizability. Cattle possess only the first, second, and seventh of these qualities, and perhaps to a slight degree the sixth. That they are useful to primitive herdsmen is rather obvious. They furnish their own portability in that they can carry themselves about. They possess cognizability because all are familiar with them. There may be a certain stability also in their value, though that is by no means certain. The skins of animals, used as money by hunting tribes, possess the same qualities as cattle, but still lack the others which Jevons deems desirable. The "butters," as used in the rudimentary society mentioned above, seem to possess everything except indestructibility.

Precious metals especially adapted. It has been found that the precious metals, especially gold and silver, possess all these qualities in superior degree. If by utility we mean desirability, or the capacity to satisfy a desire, there is no doubt that gold and silver possess this quality. If we were to take a narrow and somewhat puritanical view of utility, we might question this. They possess portability because there is considerable value in small bulk. This would not be true of the coarser metals. They possess indestructibility to a high degree; they do not corrode or rust as iron would. They possess homogeneity; that is, gold of equal purity is essentially alike the world over; it may be easily standardized as to quality, so that one piece of metal may be equally desirable with every other piece of the same size and standard of fineness. They possess divisibility; that is, a piece of gold or silver may be divided into smaller pieces, and each of the smaller pieces will have a value in exact proportion to its size. Each may be melted down and recombined into larger pieces, and each piece will still have value in proportion to its size. This would not be true of diamonds and precious stones, though these would possess portability and indestructibility in high degree. Gold and silver possess stability of value in a very peculiar sense. Over long periods of time they will fluctuate considerably, but over short periods of time, that is, from week to week, from day to day, from hour to hour, they will fluctuate very little, whereas other commodities, such as farm products, pig iron, and other articles which are dealt in largely, fluctuate rapidly over short periods of time.

Reasons for the stability of gold prices. One reason for the stability of the value of the precious metals over short periods is that the mass of gold or silver in existence at any one time is very large in proportion to the product of any given year. The total amount of wheat in existence at the present moment has practically all been produced within the last year, or two years at the outside. Of the total gold in existence, a very small fraction was produced within the last year or two. Suppose

you had a large reservoir of water, fed by a very small pipe. If the flow through the small pipe were to vary considerably from day to day, it would make very little difference in the total quantity of the reservoir; though if the increase or decrease kept up for many years, there might be a considerable change in the quantity in the reservoir. This is analogous to the case of gold. The total quantity in existence is like the quantity of water in the reservoir; the total annual production is like the quantity which flows into the reservoir through a very small pipe. The case of wheat is like that of a small reservoir fed by a very large pipe. Any change in the quantity flowing through the pipe is likely to make a considerable change in the quantity in the reservoir. That is to say, a large crop of wheat in one year will make a great difference in the total quantity available for the world's supply. A crop failure, on the other hand, will make a considerable shortage in the world's supply. The value of wheat, therefore, fluctuates rapidly over short periods of time. Since it would take a number of years of excess production of gold to make an appreciable difference in the total quantity available for the world's supply, gold does not fluctuate much from day to day, from week to week, or even from year to year.

Since most of the transactions in which we use money are short-time rather than long-time transactions, it is more important that the money material be stable in value over short periods than that it be stable in value over long periods. Occasionally we invest our money in something which we expect to last a long time; in such cases we are interested in the stability of the value of money over long periods; but most of our purchases are made from day to day. The average business transaction has very little relation to long periods of time. This is one of the principal reasons why gold and silver serve the purpose of a money material better than most other products. In this respect gold has proved to be superior even to silver.

As to cognizability, the superiority of gold and silver over

other materials is not so great. The expert can always apply tests by means of which he can detect spurious coins, but the inexpert usually has to depend upon his eyes and his ears and his sense of touch. But there are not many other substances which cannot be adulterated or of which counterfeits may not be made. Gold and silver are not particularly wanting in cognizability, though they are not preëminently superior in this respect.

For certain minor coins, however, neither gold nor silver is well adapted. There is so much value in such small bulk in gold, for example, that one would need a magnifying glass and tools more delicate than the human fingers to handle gold coins of the value of our five-cent pieces and one-cent pieces. Mere physical convenience requires a coarser metal for these small values. Even the gold dollar, which was once coined in the United States, proved too small and inconvenient, and its coinage was therefore suspended. The forms of money now in existence in the United States are indicated in the following outline:

KINDS OF MONEY IN THE UNITED STATES

- Coin
  - Gold
    - Double eagle
    - Eagle
    - Half eagle
    - Quarter eagle
  - Silver
    - Dollar
    - Half dollar
    - Quarter
    - Dime
  - Nickel: Five-cent piece
  - Bronze: One-cent piece
- Paper
  - Gold certificates
  - Silver certificates
  - Treasury notes
  - United States notes (greenbacks)
  - National bank notes
  - Federal Reserve notes
  - Federal Reserve bank notes

The coins are sufficiently familiar to require no description. Their differences appeal readily to the eye. It is noticeable, however, that comparatively few people note carefully the different kinds of paper currency. Anyone who has coins in his pocket can tell you instantly to which class each coin belongs. Comparatively few people, however, can tell you about the different pieces of paper money in their pockets.

The first three forms of paper currency mentioned in the above outline may be called warehouse receipts. For the convenience of the people the Federal Treasury issues these receipts in return for deposits of other forms of money. If, for example, one has a large quantity of gold or silver coin, and desires something more convenient, he may deposit the coin with the Secretary of the Treasury and receive in return gold or silver certificates. These merely certify that the coin has been deposited in the Treasury. These certificates then circulate as money. Gold certificates are issued against deposits of gold, and silver certificates against deposits of silver. A silver certificate, for example, reads: "This certifies that there have been deposited in the Treasury of the United States of America —— silver dollars, payable to the bearer on demand." The Treasury notes were issued in the purchase of silver bullion under an act authorizing such purchase. They have almost disappeared from circulation, having been redeemed by the coinage of the bullion for the purchase of which they were issued. The United States note, popularly known as the greenback, is issued by the Federal government as pure credit currency. It has on its face, among other things, "The United States of America will pay to the bearer —— dollars." The issue of these notes was authorized by act of Congress during the Civil War as a means of financing the war; that is, as a means of paying the obligations of the government. The amount then authorized, with only a slight reduction, has been kept in circulation ever since. The national bank notes are technically known as national currency. They are secured by

United States bonds or other securities deposited with the Secretary of the Treasury. They are issued to the bank making the deposit, and bear on their face the name of the bank. It is the bank, however, which agrees to pay, rather than the government; the government merely stands back of the bank. A bank note has on its face, among other things, "The —— National Bank of —— will pay to the bearer on demand —— dollars."

The Federal Reserve notes are issued to the Federal Reserve banks by an agent of the United States Treasury. They are sent to the member banks by the Federal Reserve banks in return for deposits of commercial paper, and are then put into circulation by the local, or member, banks. The Federal Reserve bank notes are used as yet only to a small extent. They are issued to the Federal Reserve banks by the United States Treasury in return for deposits of government bonds, being in all essentials like the national bank notes which they are intended to replace.

Standard money. Among all these forms of money there is one which is known as standard money, — that is, gold coin. The value of the gold coin depends on the value of the material of which it is made. So long as the present policy of the government is maintained, the value of a gold coin can never vary appreciably from that of the metal which it contains. One reason for this is that the government will undertake to coin all the gold that is brought to the mint and to charge nothing for the work of coining, except the value of the alloy which is put in. Since this alloy also has some value, this virtually means that if you bring to the mint not only the gold but also the other materials which go into the coin, in the proper ratio, the government does the work of coining free of charge; you merely supply the raw material. When, therefore, there is even the slightest tendency for the value of coin to rise above that of bullion, men will anticipate this tendency by taking bullion to the mint. Since coin is easily melted down into bullion, if

bullion showed the slightest tendency to exceed coin in value, that would be anticipated by melting coin down into bullion. These two processes make it practically certain that, so long as the government can maintain its policy, gold coin and bullion will be identical in value.

Token currency. Gold is the only form of money now in circulation in the country which is actually standard money. The exchange value of a silver coin is much greater than that of the metal of which it is made. The same is true of the nickel and bronze, and conspicuously true of the paper. The general name applied to these other forms of money is *token currency*. They are accepted in exchange not because of the value of the material of which they are made but because they stand as tokens, or representatives, of some other form of value. With the currency certificates, gold certificates, and silver certificates this is perfectly plain. The certificates are merely tokens representing that which has been deposited. With the bank notes it is equally plain, because the bank agrees to pay other forms of money. Even with the silver coins, while there is no direct agreement to exchange gold for them, the practice prevails. In addition to this, and quite as important also, is the fact that the government itself receives all these forms of currency in payment of obligations to itself. Thus, you can pay your taxes, you can buy postage stamps, you can pay customs duties, and any other obligation which you owe to the government, in these other forms of currency. Technically the United States notes, or greenbacks, are not legal tender for payment of customs dues, but as a matter of fact they are receivable. By legal-tender currency is meant any currency with which you can pay a debt and compel the creditor to take that or nothing. You can offer, or "tender," him the amount of the debt, and he cannot demand some other form of currency. Most of our forms of currency are legal tender for any amount, except our smaller coins, which are legal tender for only limited amounts. They thus represent in that indirect

sense a real value, or they serve these valuable purposes for their possessors. In the third place, some of them are declared to be legal tender; that is, you can pay your debt, not only to the government but to anyone else to whom you owe money, by offering various forms of token currency as well as by offering gold.

The question has frequently been raised, Why use such expensive materials as gold and silver for money? Would not some cheap substance, such as paper or aluminum, serve equally well? Many long and heated controversies have been waged over this question. The so-called "hard-money" school have taken the position that the government cannot make money, it can only stamp money. The stamp merely serves as a certificate of its weight and fineness; the market itself must then determine its value. The "soft-money" school, on the contrary, have pointed to many historic instances in which cheap materials have actually served as money and circulated at a value which bore no relation to the value of the substance of which it was made. The truth seems to be summarized as follows: 1. Long-established customs, in a country such, for example, as China, where custom rules supreme, may enable a kind of money to circulate at a customary value regardless of the commercial value of the material of which it is made. 2. A government which is in the habit of using a great deal of compulsion, as in Germany, over a people who are in the habit of submitting to authority and compulsion, may by its own decree cause money to circulate at legally established rates without regard to the commercial value of the substance of which it is made. But a government which is not in the habit of exercising a great deal of compulsion, and a people who are not in the habit of submitting to it, have to rely mainly upon voluntary agreement among individuals in most of the relations of life. 3. Where voluntary agreement rather than government compulsion is mainly depended upon, it has hitherto proved impossible to get people to voluntarily agree

upon any substance as the material for standard money except something which had a value as raw material commensurate to its value as money. 4. Cheaper substances may, however, be used in limited quantities as token money even in liberal countries where everything is done by voluntary agreement, (*a*) when standard money will be exchanged for it; (*b*) when the government will accept it in payment to itself; (*c*) in small quantities when the government exercises its authority by compelling a creditor to accept it in payment of a debt when offered by a debtor. This, however, is an exercise of compulsion, but it is one to which many even of the liberal governments resort.

CHAPTER XXV

BANKING

Need of institutions to deal in credit. In view of the fact that credit supplies so important a part of our circulating medium, it is natural that a special class of institutions should arise which deal primarily with credit. These institutions are called banks. The term *bank* originally meant the bench before which the money changer sat, with his coins stacked up before him. When he failed in business, his bench was broken up, hence the word *bankrupt.*

Receiving deposits and making loans. The original business of the bank was ostensibly to deal in money, but out of this has grown the business of dealing in credit. Lombard Street became the banking center of London, from the fact that it was occupied by goldsmiths from Lombardy. They had to have safes in which to store their valuables. During the turbulent times of the sixteenth and seventeenth centuries certain worthy Londoners used to deposit not only their valuables but their money with these goldsmiths for safe-keeping. Having so much money on hand, the goldsmiths began gradually to lend out small sums, always taking precautions to keep enough on hand to meet the demands of depositors whenever they were presented. This business of receiving deposits and making loans, which is the essence of all banking, eventually became more lucrative than the trade of the goldsmith. More and more, therefore, they gave up their original trade and became dealers in money and credit; that is, receiving deposits and making loans. These two things are still the fundamental purposes of a bank. The depositors came to recognize the

legitimacy of this business, and it became respectable and well established, and is now one of the most important of all forms of business.

Making money more active. While, as stated above, the essential work of a bank is to receive deposits and make loans, by doing these things it performs certain important functions in the national economy. One of these functions is to take money which would otherwise have remained inactive and put it to work, thus making it active. The individual who has a fund of purchasing power which he does not care to invest for the time being may deposit it with a banker; someone else who has an opportunity for investment, that is, for the active use of capital, may go to the banker and borrow it. The banker is therefore the middleman who stands between the one who has money to spare for which he has no immediate need and the one who has a need for capital which he does not possess. Without the banker these two men might have difficulty in finding each other. The banker at least saves them time and trouble. It is very much the same function as that performed by any other middleman. The producer of material products does not have time to peddle his goods among consumers, and the consumer does not have time to search for a producer who has for sale exactly what he wants to buy. Both go to the merchant, the one to sell his surplus, the other to buy his supplies. The merchant saves both of them the trouble and earns an income in return for the service which he performs.

Savings banks. The depositor may prefer to leave his money on deposit for a long time or for a stated time, or he may prefer to deposit it on condition that he may withdraw it at any moment when it suits his convenience to do so. The former class of deposits are commonly called savings deposits, and the latter, deposits subject to check. The savings banks are a special class which receive savings deposits, whereas the ordinary commercial bank receives deposits subject to check.

Origin of the bank check. Originally, when a depositor in a bank wished to make a payment to another person, it was necessary for the depositor to withdraw his money from deposit and hand it to the payee. A little later the custom grew up of going in person to the bank and authorizing the bank to transfer a certain sum from the payer's to the payee's account. The payee could then draw out the money as he needed it. From this it was an easy step to the custom of giving the bank a written order to pay a certain sum to another person. This written order became known as a bank check. These checks proved so convenient that they became one of the principal means of making payments. A, who wishes to pay money to B, merely hands a check to B, — a written order on the bank. B may then withdraw the money, or he may deposit the check and have the sum transferred from the payer's account and credited to his own account, or he may indorse the check and pass it on to a third person. This third person may pass it on to a fourth, and so on almost indefinitely. Sooner or later, however, some individual who receives the check will deposit it with his own bank. If it happens to be the same bank on which it was originally drawn, the matter of transferring the account is very simple. If it happens to be another bank, and there happen to be a great many banks in the same business center, each one receiving, in the course of the day's business, a great number of checks on all the others, a somewhat complicated problem is sure to arise. This is the problem of bank clearings. A bank draft is merely a check on one bank drawn by another bank. A certified check is a private check to which the bank on which it is drawn certifies, or the payment of which it guarantees.

The clearing house. The vast increase in the use of bank checks in the making of payments long ago created the necessity for a special institution known as the clearing house. At the close of each day's business every bank in a large commercial center finds itself in possession of a number of checks on

each of the other banks. Originally messengers were sent the rounds, carrying bundles of checks. This was both a cumbersome and an expensive process. In order to save time and shoe leather these messengers formed the habit of meeting at certain places at certain hours and exchanging their bundles of checks, keeping records of all such transactions. By this simple process the messenger from one bank would receive all the checks on his own bank from the messengers from the other banks, and at the same time he would deliver to the messengers from each of the other banks the checks on their respective banks deposited with his bank.

From this it was an easy transition to the organization of a regular clearing house, which eventually became the heart of the whole financial district. The late Charles F. Dunbar describes the process as follows:[1]

> This medium of payment acquires great perfection wherever the Clearing-House system is adopted. Under this system there is a daily meeting of clerks representing all the banks carrying on business at any common center. Every bank there turns in at a central office all the checks and cash demands which it holds against others, and is credited therewith, and is also charged with all checks and demands brought against it in like manner by others. The checks and demands which have thus been credited to and charged against each bank are then summed up, and the balance found to be owed by or due to each bank, as the case may be, it then pays to or receives from the central office in money. By this means a great mass of transactions, which would otherwise require a series of demands by each bank upon every other in the same place, are settled at once, and the transportation of large sums in cash from one bank to another is to a great extent dispensed with.
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> The bank deposit, circulated by means of checks, is the most convenient medium of payment yet devised. A stroke of the pen transfers it in whatever amount is needed for the largest transaction, and this transfer instantly becomes the basis for fresh operations, with as complete security against accidental loss as can be imagined. In the strict economic sense this medium no doubt has rapidity of circulation in a high degree, while in the sense of actual activity of movement in a given time it far outstrips money

[1] The Theory and History of Banking. Third edition, enlarged by Oliver M. W. Sprague. G. P. Putnam's Sons, New York and London, 1917.

or notes, and has been well said to be the most volatile of all the mediums of exchange. Of the entire circulating medium of this country, it forms incomparably the greatest, although the least considered, part. Depending for its efficiency solely upon convention, it for the most part eludes the regulations which legislatures so industriously enforce upon the other constituents of the currency. Indeed, beyond the requirement of a minimum reserve made by the law of the United States, and of most of the several states, we may say that the subject is not touched by legislation, in this country or elsewhere. The necessity for payment in specie or legal-tender paper upon demand, the chief safeguard of value, is the result of general provisions for the payment of debts of any kind. And the chief assurance against excessive expansion on the part of any single bank or banker is given by the certain demand for prompt and frequent settlement occasioned by the voluntary establishment of the clearing house, or by the habits of the community, but not by law.

Since the above was written, the Federal Reserve Act has been passed and the Federal Reserve system put into operation in the United States. Dunbar's description of the essential methods of clearing still applies, but most of the bank clearings in this country are now done through the Federal Reserve banks. The clearing house is essentially a *banker's bank*, where banks make their payments to and collect their obligations from one another very much as private individuals who do business with the same bank make their payments to and collect their obligations from one another. The Federal Reserve banks are now in a peculiar sense fitted to act as the bank for the member banks, thus taking the place of the clearing house.

When you make a payment to someone in another city, with whom you have business relations or who knows you and your solvency, a very convenient method is to send him a check on your own local bank. He will then present your check to his own bank for collection. His bank will usually credit him at once with the amount for which the check is drawn, and then send the check through a regular groove. Usually it will send the check to the Federal Reserve bank of its district, and this Federal Reserve bank will send it either to the bank on which it is drawn or, if that bank is in another

district, to the Federal Reserve bank of that district, which will, in turn, send it to the bank on which it is drawn. When the check gets back to you, you can trace its course by the indorsements on its back. Sometimes the banks find it necessary to charge a small fee for collecting a check of this kind.

Bank checks do not circulate quite so freely among private individuals as money, because each check must be indorsed by each person through whose hands it passes. Therefore a check will be accepted only from a person whose signature is known to be genuine. Since, however, paper money circulates without indorsement, one will accept it from a stranger or a known rogue unless one has reasons for suspecting the money to be counterfeit.

Bank notes. Certain banks, such as national banks, have been permitted to perform the special function of issuing bank notes and thus providing a circulating medium which answers the purpose of money if it is not itself a form of money. These notes have circulated from hand to hand in all respects as money. They differ from the notes of an ordinary individual in that they pass from hand to hand without indorsement. The note of an individual may circulate to a certain extent, but the laws and customs of business require that it be indorsed by everyone through whose hands it passes. In that important respect the private note differs from money. It is the custom for a modern bank note to pass from hand to hand in full payment of all obligations, without indorsement and without any regard to the honesty or credit of the individual who offers it in purchase of a commodity or in payment of a debt.

The Bank of England. In some historic cases this custom of issuing notes has grown up without the authority of the government and without any special help from the government, precisely as the custom of receiving deposits and making loans has grown up. In most modern countries, however, where bank notes are allowed to circulate, they are not only authorized by law but very carefully supervised and safeguarded. The

Bank of England, for example, occupies a position with respect to the British government somewhat similar to the position which an ordinary bank in this country occupies with respect to one of its largest customers. The British government maintains no separate treasury of its own, but deposits any surplus money which it may have with the bank, just as a private firm deposits its surplus money with its own bank. The British government makes its payments by orders on the bank, very much as a private firm would make its payments by check on its own bank. When the British government desires to borrow money, except in extraordinary cases, it has generally borrowed through its own bank, the bank merely serving as the agent of the government in this respect.

In return for various services which the bank has performed, it has been permitted to issue bank notes up to a certain extent, 17,775,000 pounds, secured by debts of the government to the bank, and to keep them in circulation very much as other forms of money are circulated. Beyond this quantity it was permitted to issue notes only under the most rigid restrictions. All its additional notes, in normal times, are virtually warehouse receipts similar to our gold and silver certificates. That is to say, for every note issued an equivalent in gold has had to be deposited with the bank. These notes were merely conveniences to the general public. An individual who did not wish to carry a large quantity of gold could take it to the bank, deposit it, and get notes instead. The notes are issued only in large denominations. Since the outbreak of the present world war the restrictions upon the issue of notes have been removed, so that, for the time being, the Bank of England is permitted to issue notes at will.

The old bank of the United States. In this country the old bank of the United States was chartered in 1791 for twenty years. A new charter was refused in 1811, and it went out of existence. A second bank, similar to the first, was chartered in 1816, to run for twenty years. Both these banks served

much the same purpose as the Bank of England; that is, the United States Bank was in a sense the banker of the Federal government. It went out of existence, however, in 1836, having failed to secure a new charter, partly through the opposition of President Jackson.

The national banking system. In 1863 the foundation of our present national banking system was laid, and a series of national banks was created, partly as a means of making a market for the bonds which the Federal government was offering for sale in order to get money with which to carry on the Civil War. Any bank chartered under this act was permitted to deposit bonds of the United States with the Secretary of the Treasury, and in return for these deposits it was permitted to circulate bank notes up to 90 per cent of the value of the bonds deposited. Thus, if the bank failed, the government had possession of enough of its property to redeem all the notes which it had issued. In a sense, the bank had pawned valuable property (that is, government bonds), and received a kind of pawn check in return. These "checks," called bank notes, it was permitted to circulate. This is essentially the characteristic of our bank notes to the present day. Subsequent acts have made some changes in the system, particularly the act of 1908, which permits a national bank to deposit certain other securities besides United States bonds as a basis for its note circulation.

The Federal Reserve system. The most important piece of banking legislation in this country since the National Bank Act of 1863 was the Federal Reserve Act of 1913. Under this act there was created under the Treasury Department of the United States a Federal Reserve board consisting of five members, besides the Secretary of the Treasury and the Comptroller of the Currency, charged with the general administration of the national banking system. The country was then divided into twelve districts, and within each district a city was selected, to be called a Federal Reserve city. The cities chosen were Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta,

Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco. In each of these cities was organized a Federal Reserve bank. This bank was to be the central bank of the Federal Reserve system in the district within which it was located. All the national banks, and all the state banks which wished to become national banks, by coming in under the Federal Reserve system were to become member banks and in a sense tributary to the Federal Reserve bank. They have a voice in the control of the Federal Reserve bank of their own district. Each member bank is required to subscribe to the capital of, and to keep all of its required reserves on deposit with, the Federal Reserve bank of its district. The Federal Reserve bank thus becomes, in a sense, the bank of the member banks of its own district. It does no business directly with private individuals, aside from the purchase of bills of exchange in the open market. The Federal Reserve banks themselves carry on their clearing through a special branch of the Federal Reserve board in Washington. This may be called the bank of the Federal Reserve banks.

The general purposes of the Federal Reserve system may be summarized under three heads: first, the provision of a general and well-organized market for the selling of commercial paper; second, the pooling of the reserves of existing banks; third, the provision of an elastic currency. The first and second of these purposes are provided for partly by the requirement that each member bank shall keep a part of its funds on deposit with the Federal Reserve bank of its district. In return for this the Federal Reserve bank is to take commercial paper, that is, notes and other promises to pay money to the bank, and send it money instead. Thus, an individual who wishes to borrow money from the bank gives it his own personal note, properly secured. When the bank has a large batch of these notes and other obligations to pay money, and needs more cash, it can indorse these notes and "sell" them for cash to the Federal Reserve bank.

The first two purposes are partly provided for by the organization of all the clearings among member banks through the Federal Reserve banks and among the Federal Reserve banks through the Federal Reserve board.

The purpose of providing an elastic currency is carried out in the plan for the issuing of bank notes. Two classes of notes are provided for under the system: first, Federal Reserve notes, and, second, Federal Reserve bank notes. The Federal Reserve notes are issued to member banks by the Federal Reserve banks in return for securities of various kinds. For example, when a member bank sends in a batch of personal notes and other obligations and asks for cash, it may get its cash in the form of Federal Reserve notes. These notes are issued to the Federal Reserve banks themselves by a government official known as a Federal Reserve agent. Over a billion and a half of these notes have been issued, and it is expected that they will increase.

Not much use has been made as yet (1918) of the Federal Reserve bank notes. They are based upon government bonds which are deposited with the Treasury Department, just as is the case with national bank notes.

It is the Federal Reserve notes, rather than the Federal Reserve bank notes, which give elasticity to the currency. When business is active and the member banks are doing a large lending business, that is, lending a great deal of money to individuals and firms, they will, of course, have received as security many personal notes and other obligations. By sending them in large batches to the Federal Reserve banks they get large quantities of Federal Reserve notes, which they proceed to lend out, receiving other notes and obligations in turn. By repeating this process they put large quantities into circulation when money is needed or demanded. When the lending business is slack, that is, when there is not much demand for money, fewer of these notes are put into circulation. Thus the supply automatically adjusts itself to the demand.

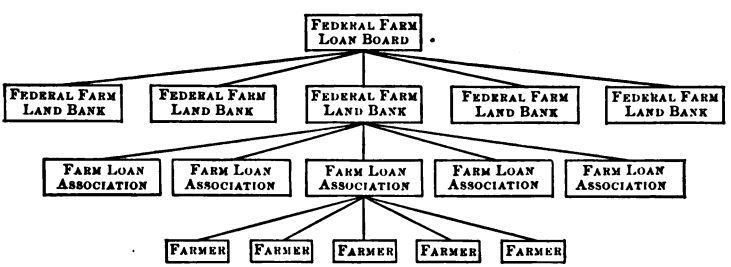
A national bank in this country is any bank which is chartered under Federal law as distinguished from state law. With the exception of the first and second banks of the United States, the banks chartered under the National Bank Act, referred to above, and those organized under the present Federal Reserve system, all banks in the United States are chartered under state laws and are therefore state banks. Before the Civil War many state banks issued bank notes. In many of the states the regulation and inspection were very inadequate, and the state banks were permitted to issue notes which they could not redeem; that is, for which they could not exchange lawful money when they were presented. These came to be known as wildcat banks. Since the establishment of the national banking system during the Civil War the privilege of issuing bank notes has been reserved for banks chartered and controlled by the Federal government, — that is, to national banks.

Agricultural credit. The business of agriculture has been the slowest of all to make a large use of credit. One reason has been that there has been no machinery designed to provide the farmers with the kind of credit which they have needed, as the ordinary banks have provided the merchants and manufacturers with the kind which they have needed. The farmer needs comparatively little short-time credit, as the merchant and manufacturer understand that term. The bank which does a regular check and deposit business, whose deposits are continually being withdrawn and replenished, must keep its assets in liquid form. Farm mortgages are notoriously hard to dispose of, and no commercial bank would feel safe if it loaned a large proportion of its deposits out on that kind of security.

Even what the farmer calls short-time credit is too long for the average bank. The farmer can seldom use credit for less than three months, and he is more likely to need it for six, nine, or twelve months, whereas the city borrowers generally borrow for shorter periods, such as thirty, sixty, or ninety days.

The farmer's chief need, however, is for long-time, or mortgage, credit rather than for short-time, or personal, credit. In the purchase of a farm, in the making of durable improvements, or even in the stocking or equipping of the farm, considerable sums of money are required. If he borrows for these purposes, he can scarcely hope to pay off his debt inside of a term of years. The mortgage is the only satisfactory form of security in cases of this kind.

A very important development of our banking system, designed to extend credit facilities to the farmers of the country, was begun by the act of 1916, inaugurating our farm land bank system. The general organization of this system resembled



that of the Federal Reserve system. It is presided over by a central body known as the Farm Loan Board. The country was divided into twelve districts, and in each district a city was selected as a headquarters for the Farm Land Bank. The Farm Land Bank was to operate throughout its own district in the organization of local Farm Loan Associations; it was to handle the securities and to discount mortgages sent to it from the Farm Loan Associations in its district.

Each Farm Loan Association is to be an association of farm owners, or those about to become owners, who desire to borrow money on the security of a farm mortgage. The individual farmer is to deal only with his local association. A group of farmers form themselves, according to specified rules and plans, into a Farm Loan Association. Each one who wishes to borrow

money gives a mortgage on his farm to the association. The association then indorses the mortgages received from its own members and sends them to the Farm Land Bank of the district. The Farm Land Bank then advances the money to the Farm Loan Association, and the association in turn advances the money to each of the farmers.

When the Farm Land Bank has a sufficient number of mortgages transferred to it in this way, it may deposit these mortgages with a custodian appointed by the Farm Loan Board, and it is then empowered to issue bonds to an equal amount and offer these bonds for sale to the general investing public. With the money received as the proceeds of these sales of bonds it may buy more mortgages from the local Farm Loan Associations within the district. On the basis of these new mortgages it may issue more bonds, and so on till its outstanding bonds equal twenty times the capital of the Farm Land Bank.

Authority as shown in the chart proceeds from the Farm Loan Board to the Farm Land Bank, and from the Farm Land Bank to the Farm Loan Association. The mortgages are passed in the opposite direction, — first, from the individual farmer to the Farm Loan Association, then from the Farm Loan Association to the Farm Land Bank, and, finally, from the Farm Land Bank to the Farm Loan Board. The money proceeds, in exchange for bonds, from the individual investor, who is a part of the general public, to the Farm Land Bank, which in turn forwards it, in exchange for mortgages, to the Farm Loan Association, which finally passes it on, in exchange for mortgages, to the individual farmers.

The fundamental advantage of this system is that it greatly increases the supply of loanable capital which is available for the farmer borrowers. When the farmer has to borrow directly from the general public, giving a mortgage as security, only a small fraction of the people who have money to lend or invest are in a position to take his mortgage. Each mortgage requires close inspection, not only as to the value of the property

mortgaged, but also as to the laws of the state, the form in which the mortgage is drawn, and a number of minor details. Only a few are expert enough to make this inspection. The inexpert investors must look for investments which do not require such close inspection. But under this new system anyone, however inexpert, who has a little money to lend or invest can as safely buy a bond of a Farm Land Bank as any other form of security. This will put at the disposition of the farmer borrower a vast fund of loanable capital from which he was formerly shut off completely.

CHAPTER XXVI

MARKETING

One very important topic under the general subject of exchange is that of marketing. This has to do with the actual process of finding buyers for that which has been produced, or, in more abstract terms, with the bridging of the gap which separates producer and consumer.

Essentials of successful marketing. There are four essentials to the easy and successful marketing of any commodity. In the first place, it must be of good quality, that is, of the quality which is desired by the buyers. In the second place, the product must be so graded or standardized that the buyer can buy it without inspection. The buyer of a farm product, for example, who must inspect it in order to test its quality, must necessarily waste a great deal of time and energy in the process. Time and energy are expensive. In order to save his time and do a large business at the minimum labor cost, he must insist on buying such products as have been graded and standardized so that he can order by grade and without inspection. In the third place, the product must be in some way stamped or branded, and the stamp or brand must be safeguarded as carefully as a banker would safeguard his signature or the government its seal. Any individual or association which permits inferior or ungraded products to go under its stamp or brand must eventually suffer loss; the reputation of the stamp or brand will be destroyed, and buyers will thereafter place no confidence in it. In the fourth place, the public must be educated as to the meaning of the grades and standards, and the stamps, brands, or trade-marks, in order that it may be aware of the desirability of buying without inspection, and of the possibilities in that direction.

Unless the producers themselves will undertake to do these four things, the consumers will never consent to buy any large proportion of the product directly. The consumer will insist on saving his time, even at the loss of some money in the way of higher prices. The producer will not be able to get the advantage of those higher prices, and there will be a considerable spread between the price which the producer gets and that which the consumer pays. This spread will be absorbed by those middlemen who buy the ungraded, nondescript products directly from the producers, in a form in which the consumers do not generally want them at all, and then put those products into such forms as will satisfy the consumers.

Special difficulties in marketing farm produce. The marketing of farm products is the least organized and probably the least efficient part of our whole marketing system. This is probably inherent in the very nature of agricultural production. From the standpoint of production the advantages appear to be very definitely on the side of the small producer. A small farmer, being able to produce more economically than the large farmer, continues to hold the field. But he is at a peculiar disadvantage in the marketing of his own produce. Even if he were able to grade and standardize his produce, the difficulty of educating the public to the meaning of his brand would be insuperable. He has so little to sell that the cost of advertising would eat up the profits. To put it in another way, the public would soon become bewildered if every one of the millions of farmers of this country tried to create a special market for his own individual products.

From the standpoint of marketing, the bonanza farmer has a great advantage. In some cases, that is, in the production of certain agricultural specialties, such as fancy fruits and vegetables, breeding animals, and race horses, this advantage in marketing is so great as to more than balance the disadvantage in production. This is probably due to the nature of an agricultural specialty. The great staple crops, on which the

world must in the main be fed, are not so difficult to market as are specialties. In the production of these great staple crops the advantage will remain probably on the side of those who can reduce the cost of production to the minimum, rather than on the side of those who can market most effectively. But in the case of agricultural specialties, where marketing is more difficult, the advantage will probably remain on the side of those who can market effectively rather than on the side of those who can reduce the cost of production to the lowest point. The large producing unit can do its own grading and standardizing, can adopt its own trade-mark or brand, and can advertise more effectively than the small producing unit. This will probably keep the production of agricultural specialties in the hands of large producers, at least for some time to come. The only chance which the small farmer will have in the field of agricultural specialties is through coöperation.

Coöperative marketing. It will be observed that there is very little coöperative farming in this country or anywhere else. There is a great deal of coöperation *among* farmers, especially in European countries; but this coöperation is really coöperative marketing. The farm as a productive unit is managed independently and separately, but the products of a great many farms are marketed coöperatively. This gives the double advantage of economic production in small units and efficient marketing in large units. On the whole, it looks like an ideal arrangement.

This distinction between production and marketing will throw light on certain problems in business organization outside of agriculture. The so-called trust is primarily a marketing organization rather than a producing organization. A large number of independent companies, operating independent factories, join together for a common management. This may result in some reorganization of the work of production, but in the main it works a reorganization in the methods of selling the product, of buying the raw materials, of hiring labor, or of bargaining for transportation. It is probable that some economies

are introduced into production; but even if no economies of production were secured, the trust might succeed by reason of its superior bargaining power. If, by reason of its magnitude and the perfection of its organization, it can bargain for better transportation rates than independent producers can get, it may beat them out in competition. In the earlier days of the trust movement this was an important factor in its success. Again, if the trust can get control of a source of raw material, or, through its organization, can bargain to better advantage for its raw materials, it likewise has an advantage over its independent competitors. Or if it can secure its labor on better terms, it will have another advantage. In the main, however, its chief advantage lies in its superior facilities in marketing. Having its selling organization highly perfected and its agents everywhere, it can take advantage of every possible fluctuation in demand, and thus secure a legitimate advantage. Unfortunately it is also able to manipulate the market, to discriminate in prices between localities as well as between persons, and thus to gain an illegitimate advantage over its independent rivals. The advantages of the huge department store are likewise in the field of bargaining rather than in the field of productive service.

Social advantages of a good marketing system. There is little danger that any farmers' association will ever reach a magnitude or a perfection of organization which will permit it to discriminate in prices against certain localities or individuals. There is therefore little danger that it will ever be able to secure an illegitimate advantage. It may, however, reach a magnitude and a perfection of organization which will enable it to take advantage of whatever fluctuations the market shows and thus gain a legitimate profit. If, for example, in an unorganized market, too much of a certain kind of produce should be sent to one city, some of it would either go to waste or be very ineffectively consumed; that is, be used for unimportant purposes. If, at the same time, too little were sent to another locality, there its marginal utility would be high. The total

supply of the commodity would yield more satisfaction if i were redistributed. A community which was oversupplied would lose very little by having its supply slightly reduced; whereas a community which was undersupplied would gain considerably by having its supply slightly increased. There would thus be a net gain to society through the redistribution. A large and efficient selling organization can frequently prevent such a bad geographical distribution of produce, and thus avoid loss to the community. In so far as it achieves this result, it is rendering a valuable service to the nation and is entitled to profit by it.

Standardization a government function. There may be some questions as to what part the government can properly take in the improvement of marketing methods and facilities. Whatever differences of opinion may exist with respect to other functions of government, little is said, or can be said against coining money and fixing the standards of weights and measures. Though these two functions are grouped together in the same clause of our Federal Constitution, it is doubtful if it is generally realized how close is the logical connection between them. Both result in great economy of effort in the transfer of goods. The economy involved in transferring coined money rather than uncoined metal is apparent. Coining the metal merely enables it to pass from hand to hand without the labor of inspection; that is, without weighing it to determine its quantity and without testing it to determine its quality. It sells (if we may speak of selling money) on grade and reputation rather than on inspection. It is the most salable of all commodities, and the fact that it is so standardized as to make inspection unnecessary on the part of the buyer has a great deal to do with giving it its superior salability. By the same process of standardization any other commodity may approach gold coin in salability, though it may not quite reach it. At least it is safe to say that whenever it can be sold entirely on grade and reputation, and absolutely without inspection, its salability will be enormously increased.

Standards for measuring quantity. A short step is taken in the direction of standardizing other commodities when the state establishes uniform standards for determining quantity; that is, when it fixes the standard of weights and measures. Without some uniform system even our present methods of selling would be much more clumsy and wasteful. Every buyer would have to have his own system for determining the quantity of his purchases. This falls short, however, in two important particulars, of what is accomplished when metal is coined in a modern mint. In the first place, the government actually coins the money or requires it to be coined according to its own rules, whereas in other cases it only defines the units of measurement and commands conformity to its definitions. In the second place, coins are standardized not only as to quantity but as to quality as well. There is no probability that any government will be called upon to do that which would be analogous to coining money, — actually put up other commodities in standardized packages. Something is to be said in favor of fixing standards of quality as well as standards of quantity.

Need for standards for determining quality. The reasons for fixing standards of quality, wherever it can be done, are identical with those for fixing standards of measuring quantity. They are all summed up in the superior economy of buying on grade and reputation as compared with buying on inspection. The buyer of an unstandardized commodity may have enough confidence in the seller's system of weights and measures to avoid the necessity of weighing and measuring for himself, but he can scarcely avoid the necessity of inspecting the commodity in order to determine its quality. In some cases the determination of its quality is easier than that of its quantity, but in other cases it is not. In all cases where quality can be standardized, there is economy of effort. So far as buyers can be saved the trouble of inspection, so far will they be enabled to economize the time and effort involved in making

purchases, and so far also will the salability of commodities be increased. Whether this will reduce the cost of getting the standardized commodities from producers to consumers, or merely enable the consumers to use their time more advantageously to themselves, may be open to question; but the ultimate economic effects are much the same in either case.

Need of expertness in buying supplies. Not the least among the advantages of a minute division of labor is the fact that each individual can avoid the necessity of being expert in many things, and therefore has time to become a specialist in one thing. One of the advantages of the standardization of commodities is that the average consumer can avoid the necessity of being an expert judge of the many articles which he has to purchase. He may therefore utilize his time and mental energy in his own special field of work. There is, to be sure, something attractive in the custom of the well-to-do burgher going to market and selecting with the eye of a connoisseur the various articles needed by his household, but it is wasteful of time and mental energy. When he or his housekeeper is able to order by telephone, without any inspection whatever, and still get what he wants, more time is left for other things.

This will help to explain two very distinct tendencies in present-day retail-marketing methods. The first is to put up more and more articles in standardized packages. The second is to place more and more dependence upon the retailer, who, in many cases, is coming to regard his customers as clients, to whom he is bound to give his own expert service. Both tendencies are designed to save the consumer the trouble of becoming an expert buyer and to leave him more time for other things. Neither tendency has as yet reduced the cost of getting products from producer to consumer. If the consumer utilizes the time saved in marketing by doing work which earns him a larger income with which to purchase goods, it perhaps does him as much good as it would if these tendencies merely reduced the price of commodities.

Marketing by telephone an American habit. Marketing by telephone is peculiarly an American habit. This may in part explain, and in part be explained by, the fact that two thirds of all the telephones in the world are in the United States and three fourths of them are in the United States and Canada. This habit makes it more and more difficult for the householder to inspect her purchases. She is therefore more and more driven to one of the alternatives mentioned above. She must order well-known brands, which are put up in standardized packages, trade-marked, and sold on grade or reputation, or else she must rely on her grocer or her marketman very much as she does on her physician, her lawyer, or her financial adviser. The quality of dependableness becomes, therefore, more and more important in the grocer and the marketman. Such qualities have to be paid for. Thus the householder saves time, but pays for the privilege.

If she buys standardized goods in standardized packages, she will usually pay from 50 to 100 per cent more than she would if she bought in bulk and did her own inspecting and selecting. If she relies, as a client, upon the honesty and expertness of her grocer and her marketman, she must pay for that. Honest and capable experts do not have to live on small incomes anywhere; and when they go into the business of selling produce, they will charge for their services.

Standardization should take place early in the marketing process. One reason why these tendencies merely save the time of the consumer, instead of reducing the cost of getting the products to him, is that the standardization takes place only in the last stage of the process; that is, just before the commodities reach the consumer. In order to reduce materially the spread between the price which the producer gets and that which the consumer pays, standardization must take place early in the process. This will enable the standardized article to go through the channels of trade at a lower cost. If it has to be inspected every time it changes hands, the process is expensive,

and someone must pay the cost. Some products apparently cannot be standardized, so there must always be a wide spread between the producers' and the consumers' prices.

A good illustration of the effect of standardizing a product early in the process of getting it from the producer to the consumer is found in the marketing of certain kinds of Western fruit. They are graded and standardized as soon as they leave the orchards. All subsequent inspection is therefore unnecessary, and the cost of getting them to the consumer is reduced practically to the physical cost of haulage and handling. This has notably reduced the spread between the two prices. Many other commodities, such as wheat, cotton, pig iron, and coal, are sold largely on grade rather than on inspection. In these cases the government has had very little to do with the standardization. Two recent acts of Congress, however, have brought the government definitely into this field as the fixer of standards of quality. These are the Cotton Futures Act and the Grain Standards Act. Both give the Secretary of Agriculture power to establish grades and to enforce their use in the regular channels of trade. A number of states also have passed grading laws of various kinds. Four New England states have passed a uniform apple-grading law, defining the contents of a standard barrel, describing the various grades of apples, and imposing penalties upon all departures from the standard prescribed.

Such legislative acts cannot be called in any true sense interferences with trade. They are designed to increase the freedom with which commodities may circulate. They are somewhat analogous to the work of the traffic policeman on a crowded corner. He may exercise authority and interfere occasionally with an individual's movements, but the result of his so-called interference is greater freedom of traffic.[1]

Brands and trade-marks. Brands, trade-marks, and other selling devices of this general description would be useless or

[1] Compare the article by the author, on "Standardization in Marketing," in *The Quarterly Journal of Economics*, Vol. XXXI, No. 2, pp. 341–344.

impossible without some kind of standardization in production or grading of products. Where these services are properly used, they are an aid to the buyer as well as to the seller. They help him to know what he is getting and enable even the inexpert buyer to buy safely.

Advertising and salesmanship. From the point of view of the seller of any commodity there is not much doubt as to the efficacy of advertising and expert salesmanship. Serious doubts have been expressed, however, as to the social advantage of what may be called high-pressure selling. Why, we are asked, should we be subjected to all the arts of the expert salesman and advertiser, who are doing their utmost to persuade us to spend our money for things which we do not need? On the other hand, it is replied, why should not every art of persuasion known to the expert be brought to bear upon men to lead them to do what they ought to do? This is what evangelism, moral leadership, and all sound instruction amounts to. If we are to allow freedom in the exercise of the arts of persuasion at all, it will be difficult to draw the line. Who shall act as our censor and permit one man and forbid another to persuade people to do what he wants them to do?

Except in extreme cases this argument is unanswerable. In the case of immoral acts, or any act which the moral sense of the community condemns, it is obviously as immoral to persuade people to commit those acts as it is to commit them. If there is anything which men clearly ought not to buy, it is equally clear that men ought not to advertise it or try to sell it. But the difficulty, except in extreme cases, is to decide just what things it is proper, and what it is improper, to buy.

It is quite clear, however, aside from all questions of legal conduct, that much of our advertising is a waste of human energy. Sometimes it is a service to a consumer to apprise him of the fact that he can buy something which he has long wanted, and to tell him where it can be had. In most cases, however, advertising serves no such purpose. One does not

need an advertisement to apprise him of the fact that soap can be purchased. The only purpose served, in all such cases, is to persuade people to buy one brand rather than another. Our helplessness in such a situation is revealed to us when we consider that it would take a great deal of campaigning, accompanied by advertising and high-pressure persuasion, to work up a public sentiment hostile to advertising. We might easily waste more energy in this campaign than is now wasted in advertising.

Political campaigning. Socialists are in the habit of pointing to the wastefulness of advertising as one of the costs of competition. They do not point out, however, that a political campaign is just as wasteful as a selling campaign. The candidate for office advertises his candidacy and uses high-pressure persuasion to get people to vote for him. Since the extension of government power and authority would multiply government offices, it would necessarily multiply the number of campaigners and greatly increase the waste of time and energy used up in political campaigns. Every campaigner, even he who is campaigning for socialism, is doing much the same kind of work as is done by the expert advertiser. He is using high-pressure persuasion to get men to do things which they would otherwise not do.

It looks as though we should have to regard persuasion in all its aspects, except persuasion to do that which is morally condemned, as a necessary cost of freedom. A despot could suppress all persuasion, in politics as well as in salesmanship, but a free people can scarcely get along without it. Freedom is in some respects costly, but it is worth all it costs.

CHAPTER XXVII

ECONOMIC CRISES

Financial crises. One of the most important and most puzzling of all modern economic questions is that of the frequent recurrence of financial crises and general industrial depressions. A financial crisis is an occasion when the money market becomes suddenly demoralized, confidence disappears, and credit shrinks. Everyone to whom money is owed wants it at once, but no one wants to let go of any money in his possession, for fear that he may not be able to get any more. Besides, there does not seem to be money enough to pay off existing debts.

In the chapter on Banking it was pointed out that a large part of the business of the world was done on credit, without the actual handling of money. If you will imagine a group of men doing business with one another, where each one trusts every other, you will see that a large amount of business can be done with a ridiculously small amount of money. Many transactions will be carried on by means of promises to pay money instead of with the money itself. Many of these promises will be balanced against one another and canceled without the use of any money. In other cases the money will be used merely to pay the balances. But if something should happen to destroy confidence, so that no one would accept promises, but everyone demanded real money, there might not be money enough to go around and make the necessary payments. In that case business would have to slow down, and only as much business could be done as could be done with the small amount of money available. If, in addition to this, everyone held on to all the money he could lay hands on, for fear that he might

not be able to get any more, even the limited amount of money in circulation would move slowly, and business would have to slow down correspondingly. A swift dollar may pass from hand to hand many times in a day, and in this case it will do a large amount of business; but a slow dollar passes from hand to hand only a few times a day, and does a small amount of business.

Industrial depressions. An industrial depression is usually more deep-seated than a financial crisis and usually lasts for a longer time. It is a general stagnation of production because of an inability to get satisfactory prices for products. Various explanations, some intelligent and some absurd, have been offered. Overproduction is one of the most common and least intelligent. There may be such a thing as disproportionate production, but such a thing as general overproduction is a physical impossibility. The production and supplying of one thing is a demand for something else; the more production, the more demand; but if some things are produced and offered for sale, and there is no demand for them, it means either that those few things are overproduced or that the other things which might be exchanged for them are underproduced.

The overproduction theory. One phase of the overproduction theory of industrial depression is that wages are so low that the laborer is not able to buy his own products. It is argued that this results in an overproduction and glut on the market. There are many excellent reasons why wages should be higher than they are, but this is not one of them. So far as its effect on the general purchasing power of the community is concerned, it makes no difference whether wages are high and rents, interests, and profits are low, or whether wages are low and rents, interests, and profits are high. If the laborer gets a small share of the production of a given industry, and the managers, landowners, and capitalists get a large share, these have a large purchasing power and the laborer a small purchasing power. The value of the whole product of every

industry goes to these various classes, and they have it all to spend. If one class possesses a large share, and another class a small share, the total amount to be spent for other commodities is not affected by that distribution. If the laborers get absolutely the whole product of an industry, there would be no more to spend on other products than if the laborers got one half the product and the other participants got the other half. This, let it be repeated, has nothing to do with other and excellent reasons why wages should be high.

The periodicity theory. A certain periodicity has been observed in the recurrence of crises and depressions. It is not always easy to determine just the interval that elapses between depressions. Sometimes they come approximately twenty years apart, but they have a disconcerting habit of coming at unexpected times. In his book on "Economic Crises" Jones gives the following table:[1]

LIST OF ECONOMIC CRISES

United States	England	France	United States	England	France
—	1792–93	—	1847	1847	1847
—	1796	—	—	—	1855
—	—	1804	1857	1857	1857
—	1810–11	—	—	1866	—
1812	—	—	1869	—	—
—	—	1813	1873	1873	1873
—	1815	—	—	—	1882
1818	—	1818	1884	—	1884–5
1825	1825	1825	1890	1890	1890
—	—	1830	1893	—	1893
1837–39	1836–39	1836–39			

In the nineteenth century it will be noticed that there were severe crises in 1818, 1837, 1857, with lesser crises in 1825 and 1847. The severe crises seemed to come every twenty years

[1] Edward D. Jones, Economic Crises. The Macmillan Company, New York, 1900.

for almost half a century. Again there were severe crises in 1873 and 1893, with a less severe one in 1884. Another one occurred in 1907.

Various attempts have been made to explain this apparent periodicity. The late William Stanley Jevons developed an interesting theory of the coördination between sun-spot cycles and industrial depressions. The sun-spot cycles, he argued, had a profound effect on the weather, rainfall, etc., and these in turn affected the agricultural basis of the world's wealth. This theory, however, had not been taken seriously by the economists until it was recently revived by the interesting observations of Professor Ellsworth Huntington. It is true he has not developed the theory at great length as applied to economic crises, but he has presented strong evidence in favor of the doctrine that solar disturbances profoundly affect climatic conditions and rainfall, and these in turn have produced great historical and economic disturbances.[1]

The overspeculation theory. There is a persistent belief among all students of the question that overspeculation has something to do with depressions. When a fever of speculation takes possession of a community, the prices paid for the articles in which people are speculating do not bear any logical relation to the real values. The speculator will pay any price for anything, provided he thinks he can sell it later at a still higher price. When prices are tending rapidly upward, he may rely on the mere momentum to carry them higher. There is only one possible outcome of this tendency; that is, a rapid fall in the prices of the commodities in which men are speculating.

Even though the speculation takes place in a single article, it may produce a profound economic disturbance. The money that is absorbed in the speculative purchasing of the article in question is necessarily withdrawn from other kinds of business.

[1] Ellsworth Huntington, "Climatic Changes and Agricultural Exhaustion as Elements in the Fall of Rome," *Quarterly Journal of Economics*, February, 1917. See also "The Pulse of Asia," Houghton Mifflin Company, Boston, 1907.

This in itself produces some disturbance. When a fall in prices begins, a general bankruptcy among the speculators takes place. When a number of men become bankrupt and are unable to pay their obligations, a process begins which may be compared to knocking over one brick in a row of bricks standing close together. The falling of one brick knocks over the one next to it, and so on until the whole row falls. Accordingly, if one individual who owes money to another fails to pay his debt, the latter, not being able to collect his money, fails to pay his obligations to a third, and so on; one after another fails, and the bankruptcy spreads throughout the community in a sort of wave motion. A depression always follows speculation of any kind, whether it be a real-estate boom or a boom in short-horn cattle, or Belgian hares, or French bulldogs. This has led to the sage remark that "the echo of a departed boom is the saddest sound in nature."

The real-estate boom. The wave of speculation in land which is known as a real-estate boom is one of the most interesting and instructive of all subjects of economic study. No one has ever been able to explain just how it starts; but after it has started, it is not so difficult to understand. Something happens, let us say, to produce a very rapid rise in the price of city lots. Men double and quadruple their money in a short time by merely buying and selling again at a higher price. This sets them and others crazy. Everyone wants to buy lots for the purpose of selling again. The first effect of this is to greatly increase the number of buyers, and the effect of this is to send the prices still higher. These buyers, as a consequence, also make money rapidly. This attracts still other buyers, some of them coming from long distances to share in the harvest. So long as buyers are increasing faster than sellers, prices continue to go up; but when the buyers become less numerous than the sellers, which must inevitably happen, prices begin to fall. Suddenly everyone becomes a seller and there are no buyers at all. Stagnation, depression, bankruptcy, and general ruin ensue.

The recovery is very slow. The men who are left with land on their hands are not fitted to use it. They did not want it for use; they only wanted it to sell. This means an inefficient use of the land. Besides, even those owners who are fitted to put the land to an economic use are handicapped because they put too much money into the land and have too little with which to develop or use it. Those who were lucky enough to sell out in good time are very careful not to let go of their money or to invest it in productive industry. Years usually elapse before the city recovers from the disaster.

Speculation in farm land, in railroads, in mining, as well as in Belgian hares, tulips, and short-horn cattle, has produced a number of historic depressions of this kind.

The overinvestment theory. There are, however, even more fundamental and far-reaching reasons than these for a certain tendency to overinvestment in certain special lines of industry. Overinvestment may produce very much the same results as overspeculation, though they are not likely to be so acute or so sudden in their appearance.

Overinvestment in the railroads of the Far West is supposed to have had something to do with the panic of 1857. The railroads were built, the capital was sunk, and then it began to appear that it would be some years before there would be business enough to put the railroads on a paying basis. Meanwhile all that capital had been diverted from other industries, which suffered in consequence. In many cases, however, the shares of the new railroad enterprise had been bought on credit. As soon as it appeared that dividends were not to be speedily forthcoming, the value of the shares fell rapidly, and those who had invested on credit in many cases suffered bankruptcy.

There is something also in the very nature of modern industry which seems to render it highly sensitive. The countries which show the largest amount of enterprise and the adventuring spirit not only expand most rapidly but also, at the same time, seem to have the largest number of industrial depressions.

The tendency to rush headlong into new enterprises is doubtless an important factor in national expansion, but it also produces a severe reaction when this headlong spirit rushes too far in a given direction.

The following is from an article by the author:[1]

One characteristic of a modern industrial community is the proportion which producers' goods hold to the total wealth. This means that a large part of the wealth is in forms which have no utility in themselves, but which derive their utility from the goods which they help to produce. A satisfactory explanation of industrial depression must, in the opinion of the present writer, be sought in the laws of value which govern investment in this class of goods, rather than in the examination of the conditions of the money market, or conditions of organized credit.

VIOLENT FLUCTUATIONS OF THE VALUE OF PRODUCERS' GOODS ON THE INVESTORS' MARKET

Let us begin by noticing a few elementary facts. Every farmer knows that a horse which will not earn more than his feed, or a piece of land which will not produce more than it costs to cultivate it, is of no value. Likewise every business man knows that an establishment that cannot be made to pay more than running expenses is worth nothing except as old iron. This is equivalent to saying that the value of such an establishment — or indeed of any productive agent — is determined not by the total value of its product, but by the excess of that total value over and above the running expenses. When the running expenses are high and the output large, so that the earnings depend upon small profits and large sales, a very slight rise in the value of the product may double or more than double the value of the establishment, provided, of course, that the rise in value is believed to be permanent. Let us suppose that a certain shoe factory can be made to turn out 100,000 pairs of shoes in a year at a uniform cost of $2 a pair. If these shoes cannot be sold at more than $2 a pair, the plant is worthless; but if they can be sold at $2.25 a pair, the earnings of the plant will be $25,000, which, capitalized at 5 per cent, will make it worth $500,000. If, however, the price of shoes should rise to $2.50, the earnings of the plant would be double; and if this rise in value were believed to be permanent, the value of the plant would double. Thus an increase of only one ninth in the value of the product would double the value of

[1] "A Suggestion for a Theory of Industrial Depressions," *Quarterly Journal of Economics*, May, 1903, p. 497.

the plant. In the same way, a subsequent fall of one tenth in the value of the product would reduce the value of the plant by one half, while a fall of one fifth in the value of the product would destroy the value of the plant altogether. This may be stated as a general law to the effect that a slight fluctuation in the value of a product tends to produce a violent fluctuation in the value of the establishment producing it. Stated in still more general terms, the value of producers' goods tends to fluctuate more violently than the value of consumers' goods.

This law is capable of still further extension when we consider that producers' goods are themselves produced by other productive agents. The different parts of the shoe factory of the above illustration were produced in other factories, and the fluctuations in the value of the shoe factory would tend to produce still more violent fluctuations in the value of the establishments producing the different parts, for the same reasons as were given above. The law might therefore be extended so as to read, The farther removed the producers' goods are from some consumable product, and the more remotely their value is derived from that of some consumable product, the more violent the fluctuations in value tend to be.

This would be the tendency until that stage was reached where the producers' agents were no longer especially connected with one particular line of production, and were not therefore affected merely by changes in price of the one kind of consumable product.

It must be admitted that the fluctuations in the value of producers' goods were never actually so violent as the foregoing illustrations have supposed, mainly for the reason that not every rise or fall in the value of products is believed to be permanent. But where the high or low price of a product continues for some time, it invariably leads to a belief that it is likely to continue; and this raises or depresses the price of the productive agent out of proportion to the rise or fall in the price of the product.

In this connection it is well to observe that while the immediate demand for consumers' goods comes from consumers themselves, the immediate demand for producers' goods comes from investors. Since their willingness to invest depends, not upon the value of the gross product of the productive agent, but upon the excess of that gross product over and above the cost of using the agent, — which excess has been shown to fluctuate more violently than the total value, — the instability of the investors' market is therefore not altogether due to psychological changes on their part, but in a large degree to the objective causes which affect the value of the things in which they invest.

A slight rise in the price of consumers' goods will so increase the value of the producers' goods which enter into their production as to lead to larger investment in producers' goods. The resulting large market for producers'

goods again stimulates the production of such goods and withdraws productive energy from the creation of consumers' goods. This for the time tends to raise the price of consumers' goods still higher, and this again to stimulate still further the creation of producers' goods. There is no check to this tendency until the new stocks of producers' goods begin to pour upon the market an increased flow of consumers' goods. This tends to produce a fall in their value, which in turn produces a still greater fall in the value of producers' goods; and so the process goes. There seems, therefore, to be a fundamental reason for the periodicity of industrial depression, which can only be removed by such a complete knowledge and understanding of the situation as would enable the business world to foresee the tendencies and take measures to overcome them.

These observations regarding the law of value as applied to different classes of goods may throw some light on the relative stability in the price of a consumable article, such as sugar, in comparison with the price of such an article as steel, which belongs to the class of producers' goods several steps removed from consumers' goods. The market for sugar is mainly a consumer's market, while the market for steel is mainly an investor's market. A consumer's market depends upon the willingness of the public to consume, while an investor's market depends upon their willingness to invest. As was shown above, there are reasons, other than psychological, why an investor's market must be more unstable than a consumer's market.

CHAPTER XXVIII

FREE TRADE

Advantages of exchange among individuals of the same country. Freedom of exchange between individuals is so clearly advantageous that practically no one advocates serious restrictions upon it. Freedom of trade between different sections of the same country also is generally approved. It would seem absurd for the South, which is peculiarly adapted to cotton, to try to be entirely self-supporting, and especially to produce certain things, such as wheat, for which its soil and climate are not so well suited as are those of other sections of the country. No one would seriously advocate an interference with the shipments of wheat and wheat flour to the South or of cotton to the North.

Advantages of exchange among individuals of different countries. It is argued by a large majority of the students of economics that the same arguments which favor a policy of freedom of exchange within the country are equally in favor of freedom of exchange between different countries. The lines which separate one country from another are frequently arbitrary political boundaries and do not necessarily interfere with the channels of advantageous commerce. These students would hold that there is no more reason why there should be an interference with freedom of trade across the St. Lawrence and the Great Lakes than across the Ohio River or the Mississippi. If there are individuals in Canada who desire products from the United States, and individuals in the United States who desire products from Canada, there is no more reason why they should be forbidden to make the exchange than there is why two citizens from different states of the United States should be forbidden to exchange their products.

The diversion of labor and capital from the more productive into the less productive industries. The positive argument in favor of freedom of trade rests upon one or two fundamental propositions. One of these is that the labor and capital of any region tends of itself to seek those opportunities and to develop those industries which are most profitable to themselves. From this it would follow that any interference with this process, or any attempt to develop an industry in a region where it would not develop without special favors, must necessarily be a mistake. It would merely divert labor and capital from the more productive to the less productive industry. Left to itself, labor and capital in the southern part of the United States will go into the growing of cotton without any governmental encouragement. This is a sign that cotton-growing is one of the most productive opportunities of that region. Any attempt to tax cotton-growing, and out of the proceeds to pay a bounty to some other industry, would merely mean that a certain amount of the labor and capital of the South would be diverted from the cotton industry, in which it is most productive, into an industry in which it would be less productive. If the new industry is not less productive, labor and capital would go into it anyway; if it is less productive, it would be a waste of resources to divert labor and capital into it instead of allowing them to go where they would naturally go.

Against this fundamental proposition of the free-trade school the protectionists have never been able to launch a successful frontal attack. They have, however, attacked the policy of free trade at other points. The arguments which they have been able to use have, on the whole, proved somewhat more popular than this severely simple doctrine on which the free-trade argument is based. There are six popular arguments in favor of protection, besides some others that are not so popular, though perhaps of greater scientific weight. These six arguments may be characterized as follows: (1) The balance-of-trade argument; (2) the home-market argument; (3) the

infant-industries argument; (4) the standard-of-living argument; (5) the anti-dumping argument; and (6) the necessity-for-military-supplies argument.

The balance-of-trade argument. By the balance-of-trade argument is meant the old theory that a nation is rich when it sells abroad more than it buys. There is a certain superficial analogy between the condition of the private individual and that of the nation. It looks at first thought as though the private individual who was selling more than he was buying was getting rich. This, however, is only an appearance. It is true that so long as he is selling more than he is buying he is accumulating money; but unless he invests that money sooner or later, it will do him no good. When he invests, he is really buying something with it; otherwise he merely becomes a miser and hoards his money instead of using it. The individual who saves or the individual who accumulates money for a time, say for a year, may be prospering in the sense that he is accumulating the power to purchase something else later on; but suppose that during the next year he invests all the accumulations of the preceding year, then it will happen that during this next year he will be buying more than he is selling. No one will claim that he grows poorer by the process.

Similarly with the nation that continually sells more than it buys, — if it never buys anything from the outside with that money, the money is of no use to it; if it merely keeps it in circulation within its own boundaries, it will have more money in circulation, but no more goods. Everybody will merely mark up prices and call himself rich. Sooner or later, however, this process must come to an end, for if prices continue to rise within the country, it becomes a poor country in which to buy products. Foreign buyers will, so far as possible, go to other markets for their supplies. At the same time it becomes a good country in which to sell. Foreign producers will seek to sell their goods within the country where high prices prevail, and if the prices are high enough, the protective tariff ceases

to be a hindrance. The combination of these two processes would speedily drain some of the surplus money out of the country; that is, when foreign producers sell large quantities to the country, and foreign buyers buy small quantities, there must come an equilibrium in prices so far as the commodities which enter into international trade are concerned. There are some commodities and services which do not enter into international trade, and the prices of these may remain on different levels for considerable periods of time.

During the first year or two of the great European war, which was inflicted upon an astonished world by the Turco-Teutonic powers, Americans had an excellent illustration of the fallacy of the balance-of-trade argument. We immediately began selling vast quantities of supplies to the Allies, who were defending themselves against attack and invasion. Their productive power was diverted from the field of industry into the field of war, so that they had very little to sell to us. The consequence was that vast quantities of money had to be sent in payment for the supplies which we sent to them. It looked for a time as though we were prospering amazingly by this process. Money was very abundant, but goods were becoming scarce. It was not long before the people began to realize that they could not live on money, — that, after all, goods were what they wanted. Some relief came when the United States began to lend the money back again to the Allies, so that they could purchase more and more supplies; that is, some of the surplus money, instead of being used in the purchase of ordinary commodities, was used in the purchase of foreign securities, including the bonds of foreign governments.

Nothing could be more elementary or more incontrovertible than that every country must in the long run pay for its foreign supplies with its own products. If it happens to produce gold and silver in large quantities, these of course must be reckoned among its own products, and it may pay for a portion of its foreign supplies with this gold and silver. In the long run,

therefore, the country that restricts importation must necessarily, and in exactly the same degree, restrict exportation.

The home-market argument. As to the home-market argument, this has been peculiarly effective with farmers. It has been pointed out to them that unless factories are built up in their own neighborhood, they must depend upon distant markets for the sale of their products. To sell their products in these distant markets and get their own supplies back, it is said, involves heavy expenses in the form of freight rates. If these expenses, however, were so heavy as to overbalance the other advantages and disadvantages involved, manufacturing would be developed in the home market without any government aid or interference. If, for example, the difference in the cost of growing wheat in Alabama and North Dakota were less than the freight rates from North Dakota to Alabama, Alabama would find it advantageous, without any government help, to grow her own wheat; but if it costs, let us say, twenty cents more per bushel to grow wheat in Alabama than in North Dakota, and the freight rate is only ten cents, then it would be very much more profitable to import wheat or wheat flour from North Dakota.

The same principle would apply to manufacturing products. If the difference in the cost of manufacturing a yard of cloth in Kansas and in New England is less than the freight rate from New England to Kansas, some cotton manufacturer would be pretty certain to locate his business in Kansas in order to save that freight rate; but if the difference in the cost of production is greater than the freight rate, then it would be a mistake to encourage the manufacture of cloth in Kansas. This principle would apply between different countries as well as between different sections of the same country. The home market, in short, is preferable to a distant market only when, with a given amount of productive energy, more can be produced by saving transportation than can be produced even when goods have to be transported over long distances.

The infant-industries argument. As to the infant-industries argument, there is undoubtedly something to be said on the side of protection. The argument is good, however, only on condition that the infant industry, after it is once established and ceases to be an infant industry, is then able to take care of itself without further protection. If it is not, and if it continually needs protection, it becomes not a policy for the protection of infant industries but a policy for the protection of those that are in a state of senile decay. It is a policy for keeping alive industries that ought to be dead.

There are two rather fundamental objections to a protective policy based on the infant-industries argument. In the first place, no matter how much protection is given to any industry, there will always be certain establishments that are just on the margin of bankruptcy. There will be men who are so poorly qualified for managing a business, or who have located their businesses in such disadvantageous places, that they have to compete with more productive industries for their labor and supplies, and are thus barely able to keep going. Any attempt to double and treble the amount of production merely calls into existence business establishments run by less qualified managers or located in less advantageous positions, so that with respect to business establishments it becomes a truism that "the poor ye have with you always." Conversely, any attempt to take away or reduce the amount of protection will necessarily mean bankruptcy to those marginal establishments. They can always bring pressure to bear upon Congress and can always show convincingly that they would be ruined if protection were taken away. Thus the infant-industries argument sooner or later inevitably becomes an argument in behalf of the small or the inefficient producer. In the second place, as laws are made in any democratic country, the lobby (which has sometimes been called the third House of Congress) is a powerful factor. The real infant industry is seldom able to support a powerful lobby. Generally speaking, the larger and more prosperous the

industry, the larger and more efficient the lobby which it can support. This makes it extremely improbable that the infant industry will get protection and extremely probable that the gigantic industry will get it.

The standard-of-living argument. By the standard-of-living argument is meant the argument that, since American laborers get higher wages and maintain a higher and more expensive standard of living than most foreign laborers, it is necessary to compensate the manufacturer for these higher wages by enabling him to get somewhat higher prices for his product. From the free-trader's point of view this looks like putting the cart before the horse. The reason why wages are higher in one country than in another is because labor is more productive in the one than in the other. If labor is more productive, the laborer creates the product out of which his higher wages are to be paid. We have had such an abundance of natural resources, and, on the whole, compared with old and overcrowded countries, such a dearth of labor, that the marginal productivity of labor has been high in this country. The unprotected industries pay these wages as well as the protected. If a given industry is not able to compete against agriculture and mining in hiring labor, that is a sign that the industry in question is not as productive as agriculture and mining. Therefore it would be a mistake to tax the more productive industries in order to allow a bounty or a higher price to the less productive industry. In the past, at any rate, there have been so many opportunities for poor people to go onto the land and work for themselves and eventually become landowners that manufacturers have had some difficulty in getting labor for their factories. In other words, labor has found a better opportunity somewhere else. Two methods have been resorted to by the manufacturers to overcome this difficulty. One has been the wholesale importation of foreign labor; the other is the securing of protective duties in favor of their business. It would seem that anyone with a sense of humor could hardly keep his face straight

while importing the cheapest kind of foreign labor to fill his factory and at the same time demanding protection in order that American labor might maintain its high standard of living.

The anti-dumping argument. As to the anti-dumping argument, there is a certain justification for it. By the anti-dumping argument is meant the argument that an old and well-established industry may, whenever it finds itself with a surplus product which is difficult to sell in its own country, offer it for sale in a foreign country far below the cost of production; or, as the argument is put in the country where protection is advocated, the foreign producer may dump his surplus onto our markets and demoralize the business of production here.

In so far as this dumping policy is temporary and spasmodic, there is a good deal to be said in favor of the policy which will restrict it. If, for example, a group of foreign manufacturers were to dispose of a temporary surplus in this country far below the cost of production, and keep it up spasmodically for a few years, it might cause bankruptcy among our own producers and discourage others from entering the business. As a result we might find ourselves in a short time with no industry of our own. Then the foreign producers would no longer need to dump their surplus onto us, but could charge us a good high price.

On the other hand, if the policy of dumping a surplus product onto us is a permanent one, there is everything to be said in favor of allowing it to go on and allowing the home industry to die out. It merely enables us to get permanently a product much cheaper than we could produce it ourselves. The labor and capital which would otherwise be engaged in this industry would now better be engaged in some other. It has been humorously pointed out that the greatest case of dumping in the world is that of the sun, which sends us light and heat at ruinously low prices. Inasmuch as it is a permanent policy of the sun, we can easily adjust ourselves to it and dispense with any industry which would propose to supply us with daylight and summer heat.

Not many years ago certain countries gave a bounty for the export of sugar. This looked like a permanent policy for encouraging the dumping of a certain commodity on other markets. The chief result was that England, a free-trade country, got an abundant supply of very cheap sugar. This not only gave her a cheap food product but enabled her to develop certain industries, such as the making of jam and marmalade, on a large scale, and to sell the products of these industries on the markets of the world, sometimes selling them back to the countries which had given a bounty on the exportation of sugar.

The military-defense argument. So long as war is a possibility the necessity for military defense will remain with us, and so long as we must be prepared for military defense the argument in favor of producing certain essential military supplies at home, even at greater cost than they could be produced abroad, will be overwhelming. It is obvious that at the very time when we need military supplies most — in time of war — we may not be able to get them at all if we depend upon foreign sources. This would apply not only to military supplies in the technical sense, that is, goods and ammunitions, but also to every article which is indispensable in time of war. It might easily happen that a nation would fail in its military operations by reason of a lack of some single military article like nitrogen or copper, and suffer a national disaster and humilation in consequence. Until we can be reasonably certain that war has been permanently eliminated, the argument for government encouragement of the production of every indispensable military article is overwhelming. The free-trader really has nothing effective to say against it.

Aside from these six arguments there are certain large historical arguments that are frequently used by the protectionist. It is pointed out, for example, that America has prospered amazingly under a protectionist policy. It is, however, equally true that England has prospered amazingly under her free-trade policy. She became prosperous before her European

neighbors did, and outstripped them all, at least during the first half century of her free-trade policy. Again, the protectionist points to the recent rapid advance in prosperity and industrial power of Germany as an example of the beneficence of the protectionist policy. To this the free-trader can retort that Germany's prosperity began with the formation of the present Empire after 1870. The taking away of the tariff walls between the German states and the establishing of a free-trade area within the whole Empire created a much larger free-trade area than had formerly existed. Secondly, the efficiency of the German system of technical education has contributed more than any other single factor to her prosperity. In the third place, Germany has had the advantage of a lower standard of living. England became prosperous long before Germany did, and as a result of her prosperity wages rose, and likewise salaries and all living expenses. The English workingman gets higher wages than the German workingman. All the salaried men in English factories get higher wages and work shorter hours than the salaried men in German factories. The English agents in foreign ports not only get higher salaries, but insist on week-end holidays and on having several afternoons off during the week in order to play golf and tennis, whereas the German agent works continually every day and Sunday. In other words, part of Germany's advantage has been her lower standard of living. The free-trader would say, "Let's wait and see how long Germany can maintain her low standard of living after she becomes as prosperous as England has been." It may be that after she has enjoyed prosperity as long as England has, there will come the same softening in her vigor, the same desire for luxurious expenditure and leisure, and she will thus lose her chief advantage in international competition. If it is any comfort for the protectionist to point out that free trade tends to overprosperity, and prosperity to softening, he is welcome to it.

CHAPTER XXIX

PROTECTIONISM

The weight of the argument in the last chapter was overwhelmingly in favor of free trade except in the matter of war supplies. Sometimes, however, it seems as though the free-traders were willing and able to answer all the arguments in favor of protection except the real ones. They confine themselves, in other words, to the popular arguments which have not now and never did have any support from serious students of the problem. The following arguments may not appeal to the popular mind, nor furnish much support to any particular tariff bill. They do, however, outline certain possibilities of a protective tariff if the government really wants to go about it seriously.

Some possibilities of a protective tariff.[1] (1) A tariff duty is not necessarily paid by the home consumer; (2) a protective tariff may be so framed as to raise wages; (3) it may be so framed as to attract labor and capital from the less productive into the more productive industries,—judged from the standpoint of the community rather than from that of the individual business man.

When the consumer pays the tariff. Whether the home consumer pays the tariff duty or not depends upon whether or not the tariff duty raises the price, in the home market, of the article upon which it is collected. Whether it raises the price or not depends upon whether it reduces the supply of the article in the home market or not, it being assumed that the duty will not affect the demand. The effect of a duty is ordinarily

[1] The rest of this chapter is from a paper read by the author before the American Economic Association and published in the *Proceedings* of the association in 1902.

to reduce the amount of the article imported. The question is, Will the home product then increase, as a result of the duty, sufficiently to counterbalance the diminution in the amount imported? If the conditions are such that a tariff duty will occasion an increase in the domestic product equal to the diminution in the amount imported, the duty will occasion no change in the total supply on the home market, and consequently no general change in the price of the article; but if the domestic product does not increase sufficiently to offset entirely the diminution in the amount imported, there will be a decrease in the total supply on the home market, and consequently a rise in price.

When the increase in home production offsets the decrease in importation. The question then becomes, Under what conditions will a tariff duty occasion an increase in the domestic product sufficient to counterbalance the diminution in the amount imported? If the duty is laid upon an article not producible at home under existing conditions and at existing prices, there can manifestly be no such increase in the domestic product, and the price will rise in consequence of the duty. How large a share of the duty will be added to the price of the article will depend upon the comparative elasticity of the demand and the supply.

When the foreign producer pays the tariff. If the demand is highly elastic, while the supply is inelastic, only a small proportion of the duty will be added to the price; that is to say, an elastic demand means that if there is a slight rise in the price of the article to the consumer, it will cause a great falling off in the amount purchased. In other words, the consumer may be said to have considerable power of resistance. On the other hand, if a considerable fall in the price which the producer can get will cause only a slight falling off in the amount produced, as will happen when there are considerable differences in the cost of producing different parts of the supply, the supply is inelastic. When the demand is elastic and

the supply relatively inelastic, the burden of a tariff duty will be borne largely by the foreign producer and only to a slight degree by the home consumer. Reversing the argument we shall reach the conclusion that when the demand for the article is inelastic and the supply relatively elastic, the burden of the duty will fall largely upon the home consumer.

When a tariff is prohibitive. When both the supply and the demand are very elastic, a tariff duty will tend to be prohibitive; that is to say, if a slight rise in the price to the consumer would cause a large falling off in the amount consumed, and a slight fall in the price to the producer would cause a great falling off in the amount sent to the tariff country, manifestly neither the producer nor the consumer can be made to pay the tariff and the article will practically cease to be imported.

If the article is produced at home, but under the law of expanding cost (commonly confused with the law of diminishing returns), the presumption is that as much is already being produced at any given time as can be produced at existing prices. The one condition for an increase in the home product is that there shall be a rise in price. It is evident that the domestic product could not increase sufficiently to keep the prices down, for the reason that if the prices were kept down, there could be no increase in the home production. A duty on such an article would raise the price of the article, and be borne, in part at least, by the home consumer.

In case the duty is laid upon an article which is produced at home under the law of diminishing cost (provided its production has not been monopolized), a different result follows. In a case of this kind the shutting out of a part of the foreign supply increases the opportunities for the marketing of the home product; and since the home product can be increased without any increase in cost, there is nothing to prevent it from increasing enough to offset entirely any diminution in the amount imported. In this case there is no reason to expect that the price will be higher under the tariff than it would be without the tariff.

The shutting out of a part of the foreign supply is analogous to a normal growth in the consumption of the article, — at least in so far as it affects the home producers. They find an increase in the consumption of their products, and it makes no difference to them whether this is due to a decrease in importation or to a growth in the normal consumption of the article. Few economists would contend that a normal growth in the consumption of an article which could be indefinitely increased at diminishing cost would cause the article to sell at a higher price. It is the position of this chapter that there is no better ground for contending that a tariff duty on an article already producible at home under the law of diminishing cost would raise the price of the article, or that when there is no natural check, such as increasing cost, to the home production, there is no reason why the home production may not increase enough to make up entirely for any falling off in the amount imported.[1]

The case of monopoly. If, however, the article is one whose home production is in the hands of a monopoly, the shutting out of a part of the foreign product would increase the monopoly's power over the home market and give it an opportunity to exact a somewhat higher price than would otherwise be possible. There is a very widespread belief that a monopoly fixes the price of its product according to a different principle from that which is followed by a single producer in a competitive industry; but such is not the case. In either case the price is fixed at the point which will yield the largest net income to the producer. The difference is that the individual producer in a competitive industry has to face a different set of conditions from that which confronts the monopolists. The competitive producer knows that if he charges too high a price for his products, his sales will fall off rapidly, not only through the unwillingness of the public to buy the product, but also through

[1] In fact, there are reasons for believing that the price would fall. Cf. Alfred Marshall, Principles of Economics, 4th ed., p. 525.

the underselling of his competitors. If he held a monopoly, he would know that a similar rise in the price of the product would cause his sales to fall off less rapidly, because only one, namely, the former, of those two forces would operate.

While both the monopolist and the competitive producer try to sell at the point of highest net return, that point is likely to be somewhat different in the two cases, because of the differences in the conditions which confront the two producers. The competitive producer has two checks on high prices, where the monopolist has one. Hence monopoly price is likely to be higher than competitive price. A tariff duty which shuts out a part of the foreign product removes one of the checks upon the power of a monopoly to charge high prices, and changes the location of the point of highest net return.

Can a tariff increase wages? Whether a protective tariff can increase the price of labor or not depends first upon whether or not it is possible, by means of a tariff, to increase the demand for labor relatively to the demand for other factors of production. If this can be done, labor will get a larger share of the total product of the industry of the community. This alone would not prove that the individual laborer would in the end be better off. In the first place, the supply of labor might increase correspondingly, either through immigration or by natural means, and in this event there would be no increase in individual wages, even though a larger share of the total product did go to the payment of labor. In the second place, the tariff might diminish the total product of industry so that, even though the laborers did get a larger share of the total, the absolute amount going to them as wages might be no greater than, indeed not so great as, before.

As to the first objection, it needs only to be said that if the tariff increases the demand for labor, that will tend to raise wages. Whether or not this tendency will be counteracted by immigration or by natural increase depends upon other conditions. If the tariff stimulates immigration or increases the birth rate over what

it would be without a tariff, the presumption is that it does so because it increases the demand for labor and raises wages, which is all that this chapter contends for. Wages may or may not be subsequently reduced to the old level by other forces counteracting the tendency of the tariff. As the second condition, it is hoped that the third part of this paper will show that a protective tariff does not necessarily diminish the total product of industry.

Owing to the limited space available it is necessary to assume two premises as the basis of the argument for the proposition that a protective tariff may be so framed as to raise wages within the country. (1) The three factors of production — land, labor, and capital — are combined in different proportions in the production of different commodities. (2) A selected industry may be stimulated and made to grow by means of a protective tariff. Both these propositions could be proved if space allowed, but neither is likely to be disputed by any considerable number of people. Assuming them to be true, it is only necessary to stimulate, by means of a protective tariff, the production of those articles into which labor enters as the principal factor, leaving unprotected those industries into which labor enters as a relatively less important factor. This is a process of artificial selection in which the variation which makes selection possible is found in the different proportions in which the three factors are combined in the different industries. The favorable variations, from the standpoint of the laboring class, are those industries in which labor is relatively the more important factor, and the unfavorable variations are those in which labor is relatively the less important factor. In order to favor the laboring class it is only necessary to select the favorable variations; that is, to build up by artificial means those industries in which labor is the principal factor. Even though this should result in a corresponding injury to other industries, there would still remain a net gain to labor.

Let us suppose, by way of illustration, that in industry A, at a given period, the best results, from the standpoint of the

entrepreneur, are ordinarily obtained by combining 1000 acres of land, 10 laborers, and $100,000 worth of capital. These yield a product worth $20,000. In industry B, to get a product of the same value, the best results would be obtained from combining the factors in the following proportions: 10 acres of land, 20 laborers, and $100,000 worth of capital. Wages and interest are assumed to be the same in both industries. For the sake of simplicity, capital is assumed to bear the same ratio to product in both industries, land and labor being the varying factors. By building up industry B, even at the expense of industry A, there will result a net increase in employment of labor, though a corresponding decrease in the employment of land. This increase in the employment of labor means an increase in the demand for labor, while the decrease in the employment of land means a decrease in the demand for land. The result of this situation would be that a larger share of the total product would go in the payment of wages and a smaller share in the payment of rent.

In the following tables, I represents the conditions as described above; II, the situation after industry B has been expanded 50 per cent and industry A has been correspondingly contracted.

I

	Acres	Laborers	Capital	Product
Industry A	1000	10	$100,000	$20,000
Industry B	10	20	100,000	20,000
Totals	1010	30	$200,000	$40,000

II

	Acres	Laborers	Capital	Product
Industry A	500	5	$50,000	$10,000
Industry B	15	30	150,000	30,000
Totals	515	35	$200,000	$40,000

This shows a decrease of 495 in the number of acres used and an increase of 5 in the number of men employed.

We need here to guard against the possibility that industry B, while using fewer acres of land, might require a kind of land that is so very scarce that the rent charge would be higher than in A. But this is not a necessary condition. It is quite conceivable that the two industries would use the same grade of land. It is even conceivable that industry B, in addition to using fewer acres, would also use a more abundant kind of land, where rents were less per acre. The whole difficulty could be avoided by starting with the proposition that in different industries rent charges, wages, and interest enter in varying proportions. Then, by selecting for governmental favor those industries in which wages, rather than rent or interest, form the chief item of expense, the total industry of the country would be affected favorably from the standpoint of the wage receivers.

It goes without saying that an entirely different result would be obtained by selecting for governmental favor those industries in which rent or interest formed the chief item of expense, — a result advantageous to the landlord or the capitalist, but disadvantageous to the laborer. It must be confessed also that as protectionism has been applied in the past, especially in England before the repeal of the corn laws, this result was quite as frequently obtained as the other. There is some danger also that it will be so in the future, owing to the better lobbying facilities of the landowning and capitalistic classes. But that is another matter.

Does a tariff favor the less productive industries? The proposition that protection attracts labor and capital from the more productive to the less productive industries has long been one of the basic principles of the free-trade school, — the rock on which all protectionist theories were supposed to split. And it must be conceded that unless this position can be successfully assailed, the free-trader will always have the advantage in the argument.

The difficulty with the proposition lies in the double meaning which is given to the word *productive*. In order to make

a true proposition of it, that word must be given a certain meaning; but in order to make it a conclusive argument, it must have quite a different meaning. From the standpoint of the individual business man a productive industry is a profitable[1] industry; that is, an industry which offers the opportunity of making a surplus gain over the cost of running the business. From the standpoint of the community a productive industry is one which increases the sum total of utilities. It is the profitableness of the industry, rather than its productiveness in the latter sense, which causes labor and capital to go into it. It is only by defining *productive* as "profitable" that one can support the proposition that labor and capital will seek those industries which are naturally most productive. In that sense, and in that sense alone, it is quite true that protection attracts labor and capital from the more productive to the less productive industries.

Meaning of the word *productive*. But in order to have any weight as an argument this proposition must mean that protection attracts labor and capital from those industries which create more utilities into those which create fewer utilities. That is to say, the word *productive* must mean something more than "profitable." The difficulty could be met only by showing that a profitable industry from the standpoint of the individual business man is always a productive industry from the standpoint of the community. If this cannot be shown, it would mean that labor and capital, if left to themselves, will, in seeking the largest profits, sometimes go into the less productive industries. There would then be a possibility that

[1] For want of a better term the words *profit* and *profitable* are used in the more popular sense, which agrees with the use of the terms by the older writers on economics. Profit is made to include the surplus income of an industry over and above the cost of conducting it. In this broad sense it includes rent and every other form of surplus. A profitable industry would therefore be one which would yield a surplus income of some kind. This surplus is what attracts the director of industry, and it is the surplus-producing power of an industry which determines whether or not labor and capital shall go into it.

protection or some other form of government interference might be able to attract labor and capital from a less productive industry, into which it would naturally go in pursuit of profits, into a more productive industry, from which it would naturally have been excluded by the smallness of the profits. This possibility would become a reality if the relative profitableness of the two industries could be reversed by some kind of government discrimination.

The question then becomes, Are the more profitable industries always the more productive? Manifestly not. Saying nothing of certain lines of business which are acquisitive in their nature and not productive at all, there are certain highly productive industries which have very little power of attracting individual enterprise.

To begin with an extreme case, there is the work of maintaining lighthouses. This illustration is chosen, not because it is supposed to be typical of those industries which are fitted to receive protection, but solely because it serves to make clear that there may be a productive industry which offers no inducements for private enterprise. On the one hand, this work has all the earmarks of a productive industry. It produces a real utility; this utility is of a materialistic sort and not moral or social, as is that produced by educational and other similar institutions; and it is produced by purely mechanical processes. There is nothing in the nature of the utility produced, or its processes of production, to distinguish this from any money-making business. On the other hand, this industry offers no incentive to private enterprise, that is, no opportunity for private profits, for the one sufficient reason that the producer cannot control his product. It will shine upon those who do not pay for it as well as upon those who do. He is therefore not in a position to exact a payment for his product corresponding to its utility.

It will doubtless be objected that this is a case calling for government ownership and operation rather than protection,

and the point would be well taken. This is a business so completely devoid of opportunity for profitable enterprise that no kind of protective tariff would be able to make it profitable. Nothing but a subsidy could induce private capital to go into it, and the subsidy would have to cover the whole cost. In that case the government might just as well, it may be maintained, own and carry on the business. But the difference between this industry and one which would lend itself to protective measures is one of degree only.

Industries differ widely in this particular: whereas one, such as the maintenance of lighthouses, produces a utility that cannot be controlled at all in the interest of the owner, another produces a utility of such a nature that the owner can exact full payment from those who use it, while still another produces no utility at all, but is purely acquisitive in its nature. An example of the last (not to come too near home) would be the medieval baron who took possession of a natural ford or a mountain pass and set up his castle and went into the business of collecting toll of all who passed that way.[1] These three industries do not belong to sharply differentiated classes, but they shade off gradually into one another. That is to say, there is a gradual shading off from the business which creates utilities far in excess of any amount which the owner of the business can collect, to the business which can collect a revenue far in excess of any utility actually created by it. Here again we have

[1] This is a business to which the principle of "charging what the traffic will bear" applies beautifully. What the traffic will bear is, in this case, determined by the superiority of the ford or pass compared with the poorest ford or pass over which traffic could afford to go. Let us assume that instead of merely collecting toll the baron spends some trifling sum in the improvement of the passage, still charging what the traffic will bear. His business then becomes slightly productive, but its productiveness is small as compared with its profitableness. Then let us assume that he gradually increases his expenditures for improvement of the passage until the utility created approximates more and more nearly to the charges collected; at each stage of the process his business will represent some type of business actually carried on among us to-day.

a form of variation which makes artificial selection possible, the favorable variations being those industries which come under the former description.

No complete harmony of human interests. In considering this aspect of economic life too much has been usually assumed as to the harmony of human interests. Nothing is more fundamental in economic science than the proposition that there is an antagonism of human interests. If there were a complete harmony of interests, labor and capital might be expected to seek those industries which are most productive from the social standpoint. But aside from the observable fact that labor and capital do nothing of the kind, it is a matter of common observation and experience, confirmed by reflective analysis, that there is no such harmony of human interests. One man's interest is served by having the labor and capital of the community directed in one line, another's by having them directed in quite a different line. More than that, there is great inequality among individuals in the power of giving direction to the industry of the community. The one who owns land or capital in addition to his own labor power is in better position, other things being equal, to determine the direction of business activity than is the one who owns only his labor power. We therefore not only have the certainty that each individual will try to direct business activity in the line most conducive to his own interests, and that in many cases his interests will not harmonize with the interests of the community, but also the certainty that the power to give this direction differs greatly among different individuals. If we did not know it as a matter of direct observation and experience, we might predict from these premises that the business activity of the community would not, in all cases, be directed in the most productive lines, and that therefore it would be possible, by some form of discrimination, to attract labor and capital from the less productive to the more productive industries.

The following illustration may add something to the concreteness of this conclusion. Let us suppose that a certain tract of land had been devoted to cultivation of a fairly intensive kind, and had been producing enough to pay the wages of twenty laborers, with something left over for rent. Through some change of circumstances the price of wool rises, and it is found more profitable to use the land for wool-growing. By turning the land into a sheep run, nineteen of the laborers may be dispensed with, and the saving in wages would more than measure the difference between the value of the wool crop and that of the present crop, so that a larger surplus would be left over as rent. There is little doubt that the land would then be devoted to the growing of wool. That would be to the interest of the landlord and against the interests of the nineteen laborers, but the landlord is in a better position than they to determine the form of cultivation. There is also little doubt that this would be contrary to the interest of the community. Less wealth would be produced either for consumption or for international trade. Fewer people could be supported, or the same number would not be as well supported as formerly.

If the nineteen men thrown out of employment cannot find places elsewhere, they will probably, since they want to live, offer their labor at lower wages, — enough lower to enable the landlord to get as much rent from the more intensive form of cultivation as he might get by the less intensive form. Here we have the somewhat anomalous situation of an increase in price of one of the products of industry causing a fall in the price of labor. The key to this anomaly is found in the fact that what is cost to one man is frequently gain to another. Now in this supposed case (which is not altogether a supposed case) there is little doubt that some form of discrimination in favor of the present crop and against wool would increase not only the relative share of the produce going to labor, but the absolute amount of the produce of the land.

And this is a rule which works both ways. In a community where land is extensively cultivated, it is presumably because extensive cultivation produces the best results from the standpoint of the landowner. Any one of the following conditions may induce him to change to intensive cultivation: (1) a fall in the price of labor; (2) a fall in the price of the products of extensive cultivation; (3) a rise in the price of the products of intensive cultivation. There lies the opportunity for the protectionist. By some discrimination which will tend to increase the profitableness of the intensive product, or decrease, relatively at least, the profitableness of the extensive product, an absolutely larger and more valuable product might be created. This would support a larger number of people, or support them better. They would have a larger number of products either for consumption or for international trade. Labor and capital would have been attracted from the less productive to the more productive industry. Since a protective tariff is one means by which the relative profitableness of different industries may be changed, it follows that a protective tariff may be a means of increasing the total product of the industry of the community.

PART FOUR

THE DISTRIBUTION OF WEALTH

Which has to do with the shares into which the products of industry are divided and the awarding of these shares to different groups and classes

CHAPTER XXX

THE LAW OF VARIABLE PROPORTIONS

The problem of the distribution of wealth is the problem of dividing the products of the industry of the community among the various classes. The claim of each class to a share of the wealth is usually based upon the claim that each has contributed something to its production. The contribution may be labor, either mental or physical; it may be capital, or the results of foresight or investing; or it may be land which the owner has appropriated or otherwise come into possession of.

The market value of services. The market value of what each has to offer determines his share in the product. If the market value of labor is high, the laborer gets a large share; if it is low, he gets a small share. The same is true of that which each has to offer. Our first problem must be, therefore, to study the market value of each factor, or agent, of production in order to find out why the seller of each factor gets a large, or a small, share.

The income of each class, however, is a flow rather than a fund or a lump sum. The laborer sells not himself but the flow of productive energy which he can exert during a given period of time. The capitalist sells not his capital but the flow of utilities which come from his capital during a given period of time. If the laborer were a slave, he might be sold bodily, and in that case he would bring a price. The capitalist and the landlord may sell their capital or their land. This involves a question of exchange and market price. When they sell the flow of utilities which their properties yield, we have interest and rent, which are questions of distribution. The following outline will indicate the relation of these various problems to

the general problem of valuation.[1] For convenience the flow of utilities yielded by the various factors of production are called services.

- VALUATION
  - Of goods
    - Consumers' goods
    - Producers' goods
      - Land
      - Capital
      - Laborers (under slavery)
  - Of services
    - Of land, yielding rent
    - Of capital, yielding interest
    - Of laborers, earning wages

Why productive agents are desired. The reason for paying for an agent of production is that it helps to produce something which is desirable. Its value is derived from that of its product. The greater its product, or the greater its contribution to the joint product of a group of factors, the greater its value. It is therefore of the utmost importance that we find out, if such a thing is possible, how to determine the contribution of each factor. This is one of the most elusive problems in the whole field of economics. The student is requested to study this problem as carefully and intensely as he would an intricate problem in physics or chemistry.

A combination of the factors of production not a chemical combination. In Chapter XV we saw the necessity of a proper balance, not only among the factors of production but also among all the factors of national life. But some variation among the factors of production must always be allowed. What constitutes the perfect balance depends upon a number of considerations which have not yet been discussed. A number of factors of production, when used in combination, are not like the elements in a chemical reaction or the colors in a picture. These probably permit of no variation. The factors of production may always be combined in different proportions without destroying the result. One can grow a hundred bushels

[1] Compare note by the author on "The Place of the Theory of Value in Economics," in the *Quarterly Journal of Economics*, November, 1902.

of wheat in a year by using little land and much labor or by using much land and little labor. Which is the more economical combination will depend upon the relative cost of land and labor. Where land is cheap and labor dear, it pays to use much land and little labor; where land is dear and labor cheap, it pays to use little land and much labor.

In an actual chemical combination the various elements have to be combined, apparently, in fixed proportions, without any variation whatever. This is known as the law of definite proportions. But in order to induce a given chemical combination, different substances have sometimes to be mixed in considerable masses. This gives rise to another law, which is as definite and as well understood as the law of definite proportions.

The law of variable proportions. Take, for instance, the juvenile experiment of mixing vinegar and baking soda for the purpose of producing a fizz. The actual combination of molecules which produces the gas that makes the bubbles doubtless follows the law of definite proportions. But not all the materials in the mixture will be thus instantly combined. At the end of a definite period of time, say a minute, some of the acid and some of the soda will remain uncombined, probably because a certain number of molecules of each never happened to come in chemical contact with the requisite molecules of the other. The greater the quantity of vinegar in proportion to the soda, the greater the probability that each molecule of the soda will come in chemical contact with a molecule of acid. Therefore, the greater the proportion of vinegar to soda, the greater the proportion of the molecules of soda that will be used in the formation of gas, and, conversely, for the same reason, the smaller the proportion of the molecules of acid that will be used.

Many factors at work in combination. There are, of course, other factors in the problem, such as the size and shape of the receptacle in which the mixture is placed, the temperature of the mixture, the amount of shaking or stirring to which it is

subjected, as well as the time allowed for the combination to take place. Leaving all the other factors unchanged except the one selected for experimentation, we get a result similar to that which we obtain in some of the larger economic combinations, such as the application of labor to land. In fact, we are here in contact with a universal law which applies to mixtures of chemicals, as distinct from chemical combinations, through the mixture of fertilizers in the soil, up to the combination of various forms of human talent in the promotion of national greatness.

The manufacture of ether. In the manufacture of ethers, alcohol is combined with acids much as soda is combined with vinegar in the experiment referred to above. After the mixing has taken place, only a limited proportion of the original ingredients is actually combined. Since alcohol is expensive and the acids cheap, it is found economical to use large quantities of acids in order to force as much of the alcohol as possible to combine. The acid is literally massed in its attack upon the alcohol, in order that no molecule of the latter may escape. In fact, this phenomenon is explained by the so-called mass law. If alcohol were cheap and acid expensive, it would then be desirable to force every molecule of the acid to combine. In order that as few as possible might escape, it would be necessary to mass the alcohol in its attack upon the acid. An economist might not improperly call this an intensive use of acid and an extensive use of alcohol. Conversely, the rule actually followed of massing the acid upon the alcohol might be called an intensive use of alcohol and an extensive use of acid.

The results of massing one ingredient upon another may be illustrated by the diagram which is familiar to all students of economics.

With a given quantity of alcohol let us mix varying quantities of acid, which we shall represent on the line OX. The quantity of the product, ether, we shall represent on the line OY. When a quantity of acid represented by the line OC is

put into the mixture, let us assume that we get a quantity of ether represented by the rectangle *OABC*. Twice that quantity of acid with the same quantity of alcohol will increase the product, ether, but will not double it. That is, the product increases but does not increase in proportion to the acid. Let us suppose that a quantity of acid represented by the line *OF* produces, with the other ingredients, a quantity of ether represented by the rectangle *ODEF*. A third increment and a fourth would still result in some additions to the product, as long, perhaps, as any of the original quantity of alcohol was able to escape the mass action of the acid. Eventually the point would be reached when further increases of the acid would add nothing to the product.

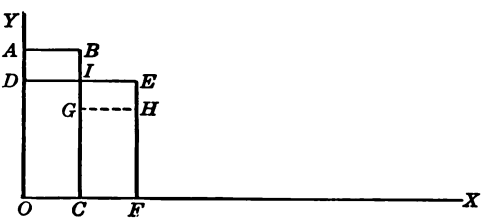


Diagram A

It will be observed, however, that the addition of the increment *CF* to the acid did not add the rectangle *CIEF* to the product. The addition to the product is the difference between the rectangle *OABC* and the rectangle *ODEF*. That difference is represented by the rectangle *CGHF*.

The marginal product. This is technically known as the marginal product of the acid. This technical term does not mean, however, that even the product *CGHF* was produced by the acid alone; it merely means that whatever value there is in the added product *CGHF* would be the outside limit of the value of the added ingredient *CF*.

Air and gasoline in a carburetor. A problem something like this presents itself in practical form in the use of air and gasoline in an internal-combustion engine. Both are necessary, but they may be mixed in somewhat variable proportions. One may use a rich or a lean mixture. A rich mixture is one rich

in gasoline and lean in air. A lean mixture is one lean in gasoline and rich in air. Combustion itself is a chemical process and presumably follows the law of definite proportions rather than the law of variable proportions. But the mixture of air and gasoline which has to precede combustion is not a chemical combination and follows the law of variable proportions; that is to say, not all of both ingredients actually burn, any more than all of the ingredients in the manufacture of ether are actually combined. A lean mixture masses air on the gasoline and enables more of the latter to burn, though much of the air is unburned; a rich mixture does not mass so much air, does not burn so much of the gasoline, but burns a larger proportion of the air. If air were expensive and gasoline cheap, a rich mixture would be more economical.

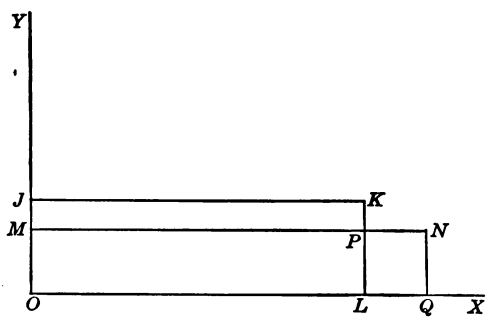


Diagram B

Since air costs nothing and gasoline is expensive, a lean mixture is the more economical. The leaner the mixture that can be made to explode, the greater the economy of gasoline. It wastes air, but that is not bad economy. In short, we try to adjust our carburetors so as to approximate as nearly as possible to the conditions represented in diagram B.

Let us assume that a quantity of acid represented by the line *OL* results, under certain conditions of manufacture, in a quantity of ether represented by the rectangle *OJKL*, while a quantity represented by the line *OQ* results, under similar circumstances, in a quantity represented by the rectangle *OMNQ*. But these two rectangles are equal; that is to say, with a quantity of acid equal to *OL* you get precisely the same as with *OQ*. In short, the additional acid, *LQ*, is thrown away. It is of no use whatever

in that particular mixture, and yet, the acid being all of uniform quality, it is as good as any of the rest. The average product, however, for that quantity of the variable ingredient would be represented by the rectangle *LPNQ*. It would be foolish to pay that much for it, however, or, if it cost as much as that quantity of ether would sell for, it would be foolish to use so much. If, however, it cost absolutely nothing, it might pay to use that much, or nearly as much, in order to be sure of getting the full use of the alcohol, which is expensive.

If we were to reduce the broken lines which form the tops of the rectangles in the two diagrams, A and B, to smooth curves, we should get something like the following:

As we increase the quantity of one ingredient along the line *OX*, leaving other factors unchanged, the average productivity, that is, the total product divided by the number of units of the variable ingredient, gradually falls. But as long as there is any product whatsoever there must be an average productivity per unit of that ingredient. This is represented by the descending curve *YB*. But the marginal productivity falls much more rapidly and may even become a minus quantity. When so much of this variable ingredient is used as to yield the maximum total product, and further additions add nothing to the total, then these further additions are said to have a marginal productivity which is nil. In diagram C the marginal product of varying quantities is represented by the line *OA*. In some mixtures further additions may actually interfere with the work and reduce the total product. The curve *YAC* represents the marginal product under these conditions. In other mixtures the excess of the variable ingredient does not become positively detrimental

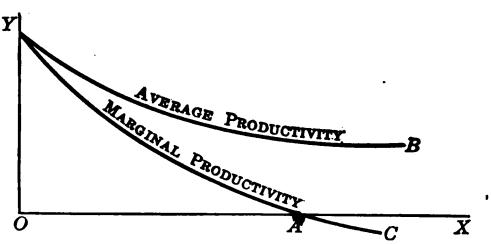


Diagram C

or destructive, but merely neutral. In such cases its marginal productivity becomes nil but never a minus quantity. The curve *YAC* in diagram C, in order to represent this class of cases, would have to be redrawn. It should never fall below the line *OX*.

Reversing the experiment gives corresponding results. If now we change the experiment and introduce varying quantities of the other ingredient in the mixture with a fixed quantity of the ingredient which we have been considering as the variable factor, we shall get results which harmonize perfectly with those which we have been getting. Returning to the case of alcohol and acid in the making of ether, let us start with a quantity of acid represented by the line *OL* in diagram B. According to our assumption as explained earlier, that quantity of acid with the original quantity of alcohol produced no more ether than a slightly smaller quantity of acid represented by the line *OL*. If now we mix a quantity of acid equal to *OL* with enough more alcohol to bring the mixture to the same proportions as in the original mixture when *OL* acid was used, the product, ether, will increase in exact proportion to the increase in the alcohol, provided, of course, the reaction is not hindered by the smallness of the receptacle or by some other extraneous circumstance.

To use, for example, a fixed quantity of air for each explosion, but a larger quantity of gasoline, would require a larger cylinder. Making such necessary allowances, we can say that if the maximum amount of air in a gasoline engine is used with a given quantity of gasoline, so that more air would be of no advantage whatever, then a little more gasoline could be introduced and would add considerably to the power. There being enough air in the mixture to get the maximum combustion of gasoline, the power would for a time increase in proportion to the gasoline. As more and more gasoline is introduced, however, with a fixed quantity of air, making the mixture gradually richer, a smaller and smaller proportion of gasoline will be burned because of a scarcity of air. If the mixture is made

rich enough, a point will be reached when further additions of gasoline will add nothing whatever to the power. The marginal productivity of gasoline is then nil. When the mixture gets so rich that it will not explode, it reduces the power, and the marginal productivity of gasoline becomes a negative quantity.

The marginal product of each factor the complement of that of the other. The marginal productivity of each factor in the combination is, it will be observed, the complement of that of the other factor. When the proportions are such that the marginal productivity of one is nil, that of the other is one hundred per cent of the average product; that is, the total product increases in exact proportion as this factor is increased. When the proportions are such that the marginal product of one factor is low, that of the other is high, the sum of the two marginal products always equaling the total product.

When there are more than two factors in the compound, the problem becomes more complicated, but the principle is the same. In such a case it is better to treat each one separately, regarding all the others as a bunch, or cluster, and thus treating them as one. Marshall has suggested the word *dose* to designate a group of factors. Thus, if we were considering nitrogen, phosphorus, potassium, and all other factors in soil fertility, we could take all the factors except, say, nitrogen and treat them as constants. By varying the nitrogen in the compound, we get variations in the crop yields.

Rothamsted experiments. Experiments of this kind have actually been carried on at the Rothamsted Estate, near London, where the great work inaugurated by Sir John Lawes has been carried on for many years. In one experiment, for example, five plots of land of approximately equal fertility were treated alike in all particulars save one. Different quantities of nitrogen were applied in the fertilizer. Forty-three pounds were applied to one; 86 pounds to another; 129 pounds to another; and 172 pounds to another. The following table shows the results:

TABLE I[1]

Plot	Fertilizer	Average Yield in Bushels for Eight Years	Gain for 43 lb. of Nitrogen
No. 5	Mixed minerals alone	19	
No. 6	Mixed minerals plus 43 lb. nitrogen	27⅞	8⅞
No. 7	Mixed minerals plus 86 lb. nitrogen	35½	7⅝
No. 8	Mixed minerals plus 129 lb. nitrogen	36⅞	1⅜
No. 16	Mixed minerals plus 172 lb. nitrogen	37¼	⅜

According to this table the yields show diminishing returns for each successive dose of 43 pounds of nitrogen. The gain on Plot No. 16 over Plot No. 8 was so slight, being only five eighths of a bushel, as to be obviously unprofitable. Therefore this plot was discontinued at the end of eight years, but the other four were continued for forty-eight years, with the following results:

TABLE II[1]

Plot	Yield in Bushels	Gain for 43 lb. Nitrogen
No. 5	15	
No. 6	24	9
No. 7	33	9
No. 8	36¾	3¾

The number of plots is too small to be finally conclusive, but so far as they go they show interesting results. The first two doses of 43 pounds each, on Plot No. 6 and Plot No. 7, show constant returns, and the third dose, on Plot No. 8, shows sharply diminishing returns. Allowing $6.50 as a fair price for 43 pounds of nitrogen, and $1 as a fair price for a bushel of wheat, we get the following results:

[1] These tables are presented in the excellent article by Eugene Davenport, in Bailey's Cyclopedia of American Agriculture, The Macmillan Company, New York. Compare also the author's volume "Principles of Rural Economics," pp. 183–184, Ginn and Company, Boston, 1911.

TABLE III

Plot	Yield in Bushels	Gain for 43 lb. Nitrogen	Value of Gain	Cost of Gain	Profit or Loss
No. 5	15				
No. 6	24	9	$9	$6.50	$2.50 profit
No. 7	33	9	9	6.50	2.50 profit
No. 8	36¾	3¾	3.75	6.50	2.75 loss

If the price of wheat were $2 a bushel, the net gains would have been $11.50 on Plot No. 6, $11.50 on Plot No. 7, and $1 on Plot No. 8. In other words, the last dose of 43 pounds of nitrogen would have paid a profit of $1 instead of a loss of $2.75. But if the price of wheat had been 50 cents a bushel, nitrogen costing the same, there would have been a loss on every dose of nitrogen.

Problems to be worked out. These tables present a number of interesting problems which the student may work out for himself. Taking Tables II and III as a basis, the following problems are suggested:

1. With 43 pounds of nitrogen costing $6.50, at what average price must wheat sell in order that the farmer may come out just even, with neither profit nor loss, on the third dose of 43 pounds of nitrogen (Plot No. 8)?

2. With wheat selling at $1 a bushel, at what price must 43 pounds of nitrogen sell in order that the farmer may come out even on the same plot with the same application of nitrogen?

We may, without doing violence to language, turn about and speak of "applying" doses of land-plus-other-factors to nitrogen. Let us start with 129 pounds of nitrogen, to which one plot, or dose of land-plus-other-factors, is applied, yielding, according to Tables II and III, 36¾ bushels. Adding two more plots to this combination, that is, spreading our 129 pounds of nitrogen over three plots instead of one, we get a much larger crop. Assuming that Plot No. 6 is exactly equal to Plot

No. 8, we get 72 bushels; that is, on Plot No. 6 one dose of nitrogen with one dose of land-plus-other-factors yields 24 bushels according to our tables. Three doses of 43 pounds of nitrogen added to three doses of land-plus-other-factors should give us three times as much, which makes 72 bushels.

Since three doses of nitrogen with one dose of land-plus-other-factors yields 72, it follows that the adding of two doses of land-plus-other-factors added $35\frac{1}{4}$ bushels.

A larger number of experiments of the same kind needed. We have not plots enough to carry this analysis much farther, but it is probably clear enough by this time that wherever, by varying the ratios in which different factors are mixed in any productive combination, we get varying results, any economist who is not willing to consider the relation of the variation in the factors to the variation in the product is not much of an economist. It must also be apparent by this time that the relation between the variation in the quantity of any factor in the combination and the variation in the product must have a great deal to do with determining the value of the factor.

This method gives the key to all correct valuation. Earlier in the chapter the term *marginal productivity* was applied to the variation in the product which followed a minute variation in the quantity of any factor in the combination. In each of the Tables I, II, III the figures in the third column would be called the marginal product of nitrogen. Objection has occasionally been raised to the use of the word *product* in this sense. It is contended that even these increments of product are not in any sense the exclusive product of the 43 pounds of nitrogen which were added in order to get that increment, — that 43 pounds of nitrogen, alone and unrelated to the other factors, would not produce even the small increments of wheat indicated in the third columns. No one, of course, claims that they would or could. It is not worth while to discuss this or that possible meaning of the word *product* or *productivity*. The essential thing to consider is, How much could a farmer

afford to pay for a given quantity of nitrogen to be used in a given combination? It is obvious that this must depend on the way it would affect the crop. How much more wheat could he grow by using more nitrogen, or how much less would he grow by using less? There is no question more practical than that. It is, moreover, a question which must be raised with respect to each and every factor in that combination of factors called a farm, or in any other business establishment. It is in the answers to such questions that we must find the key to any clear understanding of the problem of the distribution of wealth, which is, as pointed out in the beginning of this chapter, the problem of the valuation of the factors of production.

CHAPTER XXXI

THE GENERAL NATURE OF THE WAGE QUESTION

How intensely is a man's labor desired? The price of labor, like the price of commodities, depends upon how much it is desired in comparison with other things. It is important in discussing wages, as in discussing the price of commodities, that we remember that it is not labor in general, but specific units of labor, which are purchased. The question is not how intense is the need or desire for labor in general, nor how great would be the loss if all labor were wiped out of existence. The question is how intense is the need for a given number of units of a given kind of labor, or how great would be the loss if that given number of units were subtracted from the total supply. In the case of labor, as in the case of commodities, the practical, everyday question, on the part of the prospective purchaser, is, How much do I need this particular article or the labor of this particular man? How much better off shall I be with the advantage of his help than without it?

The need for more labor, rather than the absolute need for labor. It may be true that if there were no labor of a given class, say that of ditch diggers, the community would suffer terribly. Nevertheless, there may be so many ditch diggers that the addition of one to the total number would add very little to, and the subtraction of one would subtract very little from, the well-being of the community. When this is the case, the labor of any one of the total number will not be very much desired. Would-be employers will be somewhat indifferent to his offers to help and to his threats to stop working or to emigrate. The indispensable man, like the indispensable commodity,

commands the high price. The man who can be easily spared, like the superfluous commodity, brings the low price.

This may be called the functional theory of wages, and it forms a part of the functional theory of value which was outlined in a previous chapter. The function of a high price, in the economy of the nation, is to call into existence a larger supply of the thing for which it is offered. The function of a low price is to discourage the production and reduce the supply of the thing for which it is offered. If a larger supply is desired or needed, a high price is the means of getting it. If a larger supply is not desired or needed, a low price is the means of checking, limiting, or reducing the supply. Find out, in any given case, how much better off a community would be, or thinks it would be, if it had more of a given thing than it now has, and you have a fair measure of the reward which it could afford, or thinks it could afford, to pay in order to get more.

Stated negatively, find out how much worse off the community would be, or thinks it would be, if it were to lose a unit or a few units of its existing supply of a given thing, and you have a measure of what it could afford, or thinks it could afford, to pay rather than to incur that loss. If it thinks it would make a great difference one way or the other, a high price will be offered. If it thinks it would make very little difference, a low price will be offered. This applies to the price of labor as well as to the price of commodities, and for the same reason.

In the case of labor, as in the case of commodities, the community may be sadly mistaken. It may fail to appreciate real merit, and it may greatly overrate certain qualities in either case. There is no going behind the returns in a verdict of this kind any more than in a popular election.

Again, there may be members of the community who desire intensely to possess a certain commodity, or to hire a certain kind of labor, but who have not the wherewithal to purchase or

hire it. They will therefore have little influence on the price or the wages. This impecunious condition may be due to the fact that others have no great desire for the labor or the products of the persons in question. In that case the community does not value their services very highly, and therefore their desires have little influence on the market for other things or other services.

Productive labor is wanted because of its product. Our next task is to find out what determines how much the labor of any particular man or group of men is wanted. In the simplest possible case, — that of a laborer who, without any help from anybody else, produces a complete article, — his labor is needed just as much as, and no more than, the article itself is needed. The price of the article, then, is his reward. If he is not satisfied with his income, he must find fault with the price which the consumer pays for the product, for he gets the whole price. This, however, is a case so simple as to be very exceptional. Very few finished products are produced by the labor of a single person. One who goes out into the woods and gathers nuts or berries, carries them in vessels which he has himself improvised, and sells them directly to consumers may come under this class. The woodsman who goes into the primeval forest and chops wood will at least have an ax; this ax is likely to have been made by somebody else. He will probably also need a team, which may have been grown or produced by somebody else. While it is not strictly true that in a case of this kind the finished product, firewood, is produced by the labor of one man, still the problem in distribution is fairly simple. If the woodman has paid a fair price for his ax, the question of distribution as between him and the ax-maker is settled and does not need to bother us any more. If he likewise pays a fair price for his team and wagon, the problem of distribution as between himself and the horse breeder and wagon maker is also settled and need not bother us again. Since he has paid for his tools, the total value of

the wood which he cuts and hauls to town is his reward, and there is no further problem in distribution. But the further we proceed with our study, the more complicated the problem will become, for we shall find that in the great majority of cases the product is the joint product of a large number of people.

Goods generally produced by the joint labor of a number of persons. We are sometimes told that most goods are socially produced. This is a rather impressionistic statement; it may do no harm, but it is liable to misinterpretation. It would be better to say that most goods are produced by the joint efforts of several persons. The total reward which can go to all of them cannot in the long run exceed the total value of the finished product. This must be divided among all those who have participated in its production. The price of the loaf of bread must reward all those who have had any part in its production, including the baker, the miller, the various transportation agencies, and the farmer, as well as the manufacturers of the farmer's, the baker's, and the miller's tools, and so on back to the lumbermen and the miners who extracted the raw material out of which the tools were made.

The successive division of labor does not create a very difficult problem in distribution. We find here that we are in contact with what, in a previous chapter, has been called the division of labor. This is, as already pointed out, of two kinds: contemporaneous and successive. We have the successive division among the farmer, the miller, the railroad, and the baker, since, one after the other, they work upon the same material. We have an example of the contemporaneous division of labor in the case of the mill owner and his employees of various kinds, the farmer and his hired men, the railroad company and its employees, and so on. The problem of distributing the price of the finished product among those who work upon the raw material in regular succession is simply a problem in the price of commodities. Thus, the reward of the farming group comes to them in the form of

the price of wheat. This price must then be distributed among the contemporaneous workers on the farm, that is, the farmer himself and his hired men. The difference between the price of wheat and the price of flour and its by-products must furnish the reward for the milling group, and the difference between the price of flour and the price of the bread must furnish the total reward for the baking group.

All this is fairly simple and leads to no serious social problem. Of course the farmer would like to get a higher price for his wheat, and the miller would like to get it at a lower price, and each one may from time to time accuse the other of trying to manipulate the price; but it is a question of market price, and therefore society in general has not taken up the quarrel. Similarly, the miller would like to get a higher price for his flour, and the baker would like to get it at a lower price. This conflict of interests, however, does not now create what is known as a social problem. The commodity market is supposed to take care of it, and social reformers in general have not exercised themselves to any great extent on the subject. Occasionally, of course, someone is acccused of cornering wheat or manipulating the price of flour. Similarly, the baker would like not only to get his flour cheaper, but also to sell his bread at a higher price. This, again, is taken care of by the commodity market.

When bakers are accused of manipulating price, as is not infrequently done by dissatisfied consumers, no great social problem is supposed to be created. There have been historic occasions, of course, when mobs of irate consumers have hanged bakers to their own lamp-posts because the price of bread was higher than the consumer liked to pay. They have not always stopped to consider how much the baker had to pay for his flour, or the miller for his wheat, or how hard a time the farmer has had in growing his wheat, owing to bad weather and pests of various kinds. All that the irate consumers realized was that the price of bread was higher than

they were accustomed to paying, and the unfortunate baker was the only one within their reach upon whom they could wreak their vengeance.

The division of the product among contemporaneous workers the difficult problem. The great social problem of to-day, so far as it relates to the distribution of wealth, is the problem of distributing the price of the product among the contemporaneous workers. Of the total price of wheat, how much should go to the landowner (if he is a different man from the farmer), how much to the farmer, how much to the laborer, how much to the capitalist (if he is a different man from the farmer)? Or, again, of the total spread between the price of wheat and the price of flour, which furnishes the total reward to the milling group, how much should go to the capitalist, how much to the owner of the mill site, how much to the manager, and how much to the various types of laborers? And so on through the transportation groups and the baking groups, the difficult problem is always that of the distribution of the total earnings of the group among the contemporaneous workers within it.

Not much headway can ever be made in the study of this problem unless we hold carefully in mind the law of variable proportions as explained in the last chapter. When it is suggested, for example, that each factor of production should be paid for in proportion to its contribution to the product, any student who does not understand the law of variable proportions is likely to say that there is no way of finding out what each factor contributes. He will say, for example, that it is like trying to find out how much of the welding is done by the anvil and how much by the hammer, or how much of the cutting by the upper and how much by the lower blade of the scissors. To use this comparison is to show that one does not understand the problem. If one blade of the scissors were a little longer than the other, it would not require any so-called metaphysical or theoretical reasoning to see that the scissors might be improved by lengthening the shorter blade. If two

workmen were to offer their services, one to lengthen the longer blade and one to lengthen the shorter blade, it would not take much of a theoretician to decide which workman it would be better to hire. The workman who would lengthen the shorter blade would add somewhat more to the cutting power of the scissors than the workman who would lengthen the longer blade.

Most economic problems, as pointed out many times already in this volume, relate to the problems of more or less, of improvement or deterioration, of readjustment of existing equipment, organization, etc. If the blacksmith were ever called upon to decide whether to get along with an anvil without any hammer, or with hammers without any anvil, there might be some point to the comparison. The question which he has to decide is how to balance up his equipment so as to have hammers and anvils well adapted to one another. If he were to find that he could improve his work slightly by having another hammer, but that he could gain nothing by buying another anvil, there is not much doubt that he would be more likely to spend money on hammers than on anvils. He would not spend much time puzzling over the abstract question as to whether hammers or anvils were the more productive. Similarly, if a farmer found that he could increase his crop more by having extra help than by having more land, he would be more likely to offer wages to someone than to offer rent to someone else. If farmers generally felt that way about it, wages would be high and rent low. Under the opposite conditions rent would be high and wages low.

Under the law of variable proportions, or that special phase of it known as the law of diminishing returns from land, it is actually found that in a community where there is an abundance of good land but a scarcity of labor to work it, one or more laborers added to the existing number makes a considerable difference in the crop. That is a sufficient reason for paying high wages to labor. Additional laborers are very much needed;

the agricultural situation would be very much improved by having more laborers and would be very much injured if any were lost. The question of more laborers or of fewer laborers is one of considerable importance.

On the other hand, where land is so abundant and laborers so few that it is difficult to cultivate the existing land, it would not be of much advantage to production to have a few more acres, nor much of a disadvantage to have a few less. The question of more or less is not, in this case, very important. This is the question which presents itself to the practical farmers. The question as to which is absolutely more important, land or labor, is a question which occurs only to armchair philosophers. This would be in all respects like the question as to which does more of the cutting, the upper or the lower blade of the scissors.

Shares generally divided into wages, rent, interest, and profit. It simplifies the problem somewhat to classify those who take part in the contemporaneous division of labor according to the functions which they are supposed to perform. It is customary to divide them into four main classes. The first class is made up of the laborers, who work either with their hands or with their heads, and receive their share in the form of wages or salaries (for the sake of simplicity, salaries are, in this chapter, in cluded under wages); the second class is made up of the land-owners, who furnish the land and receive rent; the third class is made up of the capitalists, who supply the capital and receive a reward in the form of interest; and the fourth class is made up of the independent business men, who undertake to assemble all the other factors, — who take the chief risks of the enterprise, and receive whatever is left over after all the others are paid, and call it profits.

Any or all of these functions may be performed by, and any or all of these shares may go to, the same man. In many small enterprises the independent business man does his own work and is therefore a laborer, owns his own land and is therefore his own landlord, and furnishes his own capital and is therefore

his own capitalist. A very large proportion of the total business of the nation is done in this way. The typical farm in the northern half of the country comes under this description, as do also many small shops and stores in country towns, and a few even in the larger cities. But even the farmer, as well as any other business man who does a part of his own work, may hire additional help and pay wages, though getting wages for himself. He may also rent additional land, though owning some land of his own and getting rent for it. He may borrow additional capital, though owning some capital of his own and getting interest on it. In fact, we can find every possible variation, from the enterprise where every function is performed by the same man to that where no one performs more than a single function. An example of the latter would be the enterprise where laborers do all the work and receive nothing but wages or salaries, where someone else is the landowner, and furnishes nothing but land and receives nothing but rent, where another man, or group of men, furnishes nothing but capital and receives nothing but interest, and where still another man, or group of men, assumes the risks of the enterprise, invests the borrowed capital on the rented land, hires the labor, and undertakes to find sale for the products. In this chapter we are concerned with the income which pays for the function of the laborer. Wages are the price which is paid to call forth the necessary quantity of productive labor.

We may say in general that when one factor of production is oversupplied in proportion to the others which need to be combined with it, the question of getting more of it, or even of maintaining the existing supply, becomes unimportant. Accordingly not much will be paid in order to get more of it, or even to hold the existing supply. But when any factor is undersupplied in proportion to the others which have to be combined with it, the question of getting more of it, or of holding the existing supply, becomes very important. Accordingly a high price will be offered for it.

This principle applies not simply to land, labor, and capital, but to the different kinds of each. If there is a scarcity of skilled labor in proportion to the unskilled labor which has to be combined with it, it becomes very important to get more skilled labor, or at least to keep some of the existing supply from going elsewhere. In that case a high wage will be offered for skilled labor. Under the same conditions there is, of course, a large supply of unskilled labor in proportion to the skilled. It is therefore not very important that there should be more unskilled labor, nor even that the existing supply should be kept from diminishing. Not much is likely to be paid, under such conditions, for unskilled labor.

The next question is, What determines the relative supply of the various factors of production?

CHAPTER XXXII

WHAT DETERMINES THE RATE OF WAGES?

Causes of differences of wages in different occupations. Let us consider, first, the causes of the difference of wages in different occupations. If, in order to get efficient production, it is found necessary to have a high degree of specialization, many different kinds of skill will be found in the same establishment, each kind contributing its share toward the production of the same product. Men possessing these different kinds of skill will be needed in slightly variable, but fairly definite, proportions. In the production of cloth, for example, spinners and weavers will be needed in fairly definite proportions. If by any accident it could happen that for a period of time there were more spinners than were necessary to supply yarn for the weavers,[1] the value of each spinner would be considerably reduced. Under these conditions, if they could exist, it would be literally true that a few less spinners would be little loss, provided the remaining spinners could still supply all the yarn the weavers could use. On the other hand, the labor of each weaver would be of considerable value.

Since there would not be weavers enough to use all the yarn that could be produced, one less weaver would reduce the total production of cloth, and one more weaver would add to the total production, assuming that machinery and room were available. Under these conditions there would grow up in any free community a difference in wages in favor of the weavers and against the spinners. This would be called the law of supply and demand, but this law rests back on certain fundamental advantages and disadvantages. The addition to the total output

[1] Compare Chapter XVIII.

of cloth which would result from an increase in the number of weavers would really be much greater than the addition which would result from an equal increase in the number of spinners. This would be a sufficient reason why a higher price should be offered for the labor of weavers than for that of spinners. In the absence of compulsion, that would be the only way of attracting more weavers and fewer spinners.

Of course this condition would soon correct itself. If the wages of the weavers were allowed to go up and the wages of the spinners to go down, some of the spinners would have an excellent reason for changing their occupation. If they could not easily do so, the oncoming generation of laborers, who have to choose between the occupation of weaver and that of spinner, would be attracted into the one where the wages were higher, and thus restore the equilibrium. But if wages were not allowed to readjust themselves, and, through some compulsion on the part of the government or some other agency, all mills were forced to pay as high wages for spinners as for weavers, and to hire all who applied, then there would be no reason why the oncoming generation should go into the occupation where they were most needed. They would simply choose the one where the work was most agreeable. There is, therefore, a genuine social utility to be achieved by the difference of wages which would grow up under the law of supply and demand. It would tend to attract laborers into the occupation where more men were needed and to discourage them from entering the occupation where more men were not needed. This will be found to be the fundamental reason why wages are as a matter of fact higher in some occupations than in others. Where the ordinary processes of bargaining are not interfered with, wages tend to be high in those occupations where more men are needed, and needed badly, and low in those occupations where more men are not needed, or not needed badly. The function of these differences of wages is to restore the equilibrium between different occupations.

Cost of acquiring skill. If there is some permanent obstacle in the way of a free choice of occupations, there may be a permanent difference in the wages in different occupations, based upon an undersupply of labor in one and an oversupply in another. If, for example, a certain occupation requires a kind of skill which is not widely distributed or easily acquired, whereas another occupation requires a kind of skill which multitudes of people possess or can easily acquire, there is likely to be a permanent undersupply of the one kind of labor and a permanent oversupply, at least relatively, of the other. The cost of training or the difficulty and irksomeness of the necessary study and practice will serve to limit the number of people who succeed in entering the highly skilled occupations.

In this respect the cost of acquiring the necessary skill acts very much as the cost of producing a material commodity. As the price of the material commodity must be high enough to cover the cost or to overcome the disinclination to the work of production, so the wages of labor in a highly skilled occupation must be high enough to pay the cost of acquiring the skill or to overcome whatever disinclination there may be to the preliminary work of study and practice. If this cost is high, the wages must be correspondingly high. If the cost is very low, so that practically no one is deterred from entering the occupation, the wages will be correspondingly low.

Some skill is absolutely limited. There may, however, be certain kinds of skill which are so scarce as to be almost incapable of being increased. Certain kinds of work may require a man of genius rather than a man of training. But in most cases it will be found to be a matter of training. An indefinite number of men could be trained for almost any occupation if the wages were only high enough to furnish a sufficient inducement. This, however, will depend somewhat upon the opportunities for education and training. Under a system of free public education the cost of training is greatly reduced and should naturally greatly increase the supply of highly skilled

labor. Where the money cost of education is eliminated, the only cost remaining is the irksomeness of hard study. Those to whom this irksomeness is very slight will naturally be attracted into the more highly paid occupations. There may, however, be artificial restrictions in the way of entering certain well-paid occupations. If a group of laborers in one of those few occupations where something resembling the apprenticeship still prevails, would limit the number of apprentices, that would of course limit the number of laborers who could acquire skill enough to follow the occupation. In other cases the policy of the closed shop might be carried to such an extreme as to reduce the supply of labor in the given occupation, and thus prevent the readjustment of the labor supply to meet the demand. The tendency of freedom, however, is to encourage the automatic readjustment of the supply of labor to the demand.

- Causes of the Scarcity of Labor
  - In the unskilled trades
    - Disinclination to work because of
      - Fatigue
      - Long hours
      - Loss of opportunity for pleasure
    - Disinclination to multiply because of
      - A high standard of living
      - Late marriages
      - Birth control
    - Exclusion of
      - Women
      - Children
      - Men of other races
    - Restriction of immigration
    - Encouragement of emigration
    - Destruction of life through
      - War
      - Pestilence
      - Famine
  - In the skilled trades
    - Rarity of genius
    - Expenses of education
    - Disinclination to study
    - Reduction of number of apprentices
    - Closed shop

These are the principal factors which determine the excess in wages of the skilled trades and occupations and the learned professions over and above those paid in what are known as the unskilled occupations. By the unskilled occupations is meant, however, those which require a kind of skill which practically everybody can acquire without much special study. There is skill involved in the handling of a spade or a woodman's ax, as any inexperienced person will find if he tries to use one or the other effectively; but it is a kind of skill which large numbers of people acquire easily, and therefore the supply of such skill is so great as to keep wages down pretty close to what is known as the standard of living. We have, therefore, the problem of finding out what determines the wages of this general mass of unskilled labor. What is there here which corresponds to the cost of producing a material commodity or the cost of acquiring the skill required in one of the well-paid occupations? The factors which take the place of cost of production here are, first, the disinclination to work, and, second, the disinclination to multiply.

Scarcity of unskilled labor. Among the vigorous European and American stocks the disinclination to work is not so very great. Nevertheless, there is an appreciable quantity of labor which is chronically withdrawn from productive work by reason of this factor. That part of the leisure class which is made up of people who have inherited, married, or otherwise come into possession of sufficient wealth to enable them to live without work, show this disinclination rather clearly. There are also the chronic loafers, the tramps, and the nomadic element among us, who show a strong disinclination to work, and only do so under strong temptation.

The disinclination to multiply is unfortunately strongest among those who possess the most forethought. Those who live only in the present, who have no regrets for yesterday and no fears for to-morrow, generally give way to their primal impulses and multiply almost as rapidly as is physiologically

possible. Those, however, who look to the future, not only of themselves but of their children, who foresee the disadvantages which their children will suffer if they are insufficiently nourished or inadequately educated, generally have smaller families than are physiologically possible. The multiplication of numbers among such people becomes in part a moral process instead of a purely animal process. Family building takes the place of spawning. Marriages of those who take thought for the future are postponed until they are able to support and educate their children.

The group of motives and factors which serve to hold the procreative instincts in check are generally called by the name of *the standard of living*. This is a somewhat technical term in economics and requires some careful explanation.

Meaning of *the standard of living*. Technically the term *standard of living* means the number of desires which, in the average person of the class in question, take precedence over that group of desires which result in the multiplication of numbers. For purposes of discussion we will call the latter group of desires the domestic instincts. When the domestic instincts act powerfully and without opposing motives to hold them in check, the individual will undertake the support of a family before he is assured of a sufficient income to satisfy any but the most elementary desires. Under these conditions he is said to have a low standard of living. In his case there are very few other desires which take precedence over the domestic instincts. The individual of whom that is true will accordingly marry and undertake the support of a family as soon as he has sufficient income to satisfy that other small group of desires. In other cases a large number of other desires take precedence over the domestic instincts. An individual of whom that can be said will not marry and undertake the support of a family until he feels reasonably certain of being able to satisfy all these other desires. He is said to have a high standard of living; that is, an expensive standard.

If we can imagine a community to which immigrants from the outside do not come, and in which the average unskilled laborer has a high standard of living, we will have a community in which the average laborer will not marry and undertake the support of a family until he is sure of wages high enough to satisfy a large number of desires. If the average individual, however, has a low standard of living, he will marry and undertake the support of a family on low wages; that is, wages that are just high enough to secure him the means of satisfying a small group of desires. If the unskilled laborers of the community have a high standard of living, the average age of marriage will be a little higher and the average size of the family a little smaller, so that the rate of multiplication will be materially slower than would be the case if they had a low standard of living. The rate of multiplication being slower, the oncoming supply of labor is less, and in the succeeding generations laborers will thus be able, through the smaller supply, to continue to get high wages. If wages are low to begin with, they will refuse to marry or will defer marriage to such a late age as to reduce the supply of labor and thus force wages up to a level which will enable them to maintain their standard. If the standard of living, however, is low, and the rate of multiplication correspondingly high, wages tend to continue low. Even if wages were temporarily high, unless the standard of living should rise quickly, the rate of multiplication would so increase through early marriages and large families as to oversupply the labor market and force wages down again until they were just sufficient to maintain the low standard of living.

Standard of living affects the price of labor as cost of production affects the price of a commodity. From the foregoing discussion it will be seen that the standard of living affects the wages of the general mass of unskilled labor precisely in the same way as the cost of producing a material commodity affects its price. Wages must be sufficient to overcome the disinclination to marry and produce families. This disinclination,

however, is the joint product of a number of conflicting desires. In an elementary sense there is a strong inclination to marry rather than a disinclination, but the inclination to marry is held in check by the desire of the individual for consumers' goods of his own. If he realizes that, with a family to support, he will have a little less money to spend on himself, or that, if his family is too large, he will have less for each one of them and may not be able to educate them, such considerations will create a disinclination which may more than balance the inclination toward marriage. A real safeguard against low wages, therefore, is a high standard of living, which will check somewhat the tendency toward early marriages and large families. How far this should go is always a serious question. No one advocates so low a standard as would cause multiplication to take place as rapidly as is physiologically possible. If that were the case, marriages would take place at the age of puberty, and women would be continually engaged in the functions of motherhood as long as childbearing was possible. Nobody would favor that. Everyone favors some kind of a standard of living and some postponement of marriage. It is only a question as to how high a standard and how much postponement is desirable.

The law of population. This brings us to the great law of population, which has generally been associated with the name of Malthus. The law which Malthus worked out and which has never been successfully refuted, though many attempts have been made, may be briefly stated as follows:

1. Every species of plant and animal has the physiological power to multiply faster than its means of subsistence will permit. Subsistence is the factor which actually limits numbers.

2. The physiological power of human increase is also so great that if it should operate without moral or social restraints of any kind, it would carry population to such limits that vice or misery or both would begin to thin out the surplus population and thus operate as a check upon further increase.

3. Owing to the law of diminishing returns, a larger number of people cannot, in any given state of civilization and the industrial arts, be so well provided for from the produce of a restricted area as a smaller number can.

4. There is a strong natural instinct which inclines the members of our species to the multiplication of numbers, and unless this is counteracted by other motives, it will lead to an increase of population beyond the limits where comfortable subsistence is possible.

5. This natural instinct is, however, opposed and held in check by several contrary motives, not the least important of which is the desire for the goods which one has been accustomed to consume, coupled with the perception on the part of each head, or would-be head, of a family that a larger number of children means a smaller share of the necessaries, comforts, and luxuries of life for each one, and this keeps the rate of increase far below that which is physiologically possible.

6. How rigidly the increase of numbers is held in check by this motive depends upon the ideas of the people as to what is essential, in the way of incomes, to their happiness, — in other words, upon their standard of living. It is the standard of living, therefore, which determines the rate of increase of population, given the amount of wealth and the possibilities of production. It plays the same part in determining the supply of labor which the cost of producing commodities plays in determining their supply.

Refinement of the law of population. While this general law has never been successfully refuted, and is accepted by every economist of any standing, some refinements have been found necessary. For example, it makes a great deal of difference in what stratum of society the increase in population takes place. There might be such a thing as a considerable increase in the total population which would result in a considerable increase in the rate of wages of unskilled labor. If we could double or treble or quadruple the number of people

in what are known as the employing classes (that is, the professional men and, more particularly, the successful entrepreneurs and independent business men), the competition among these business men would take several forms. In order to equip and man their establishments they would have to bid against one another to get labor and also to sell their products. This would tend to bring up the price of labor and to bring down the price of products,—in other words, to leave a narrower margin of profits on which business men would have to live. For example, recent immigrants into the Philippine Islands from America have not been unskilled laborers but skilled laborers, engineers, technicians, and business men. This has added somewhat to the population of the Philippines, but at the same time it has increased the demand for unskilled laborers and has therefore tended to improve their condition. Whether the increase in the higher economic grades comes through immigration or higher birth rate or better systems of education, they all produce much the same result.

Effect of immigration. We began our discussion of the effect of the standard of living by assuming a community to which no immigrants came. However high the standard of living of the native laborers, or however strong the tendency of the educational and social system to raise the standard of living, if large numbers of immigrants with a low standard kept coming in, it would keep the standard down to a low level. At any rate the oversupply of unskilled labor would tend to keep wages down. Their coming tends to make business conditions easier for men who need to employ unskilled labor, but to make conditions very much harder for the unskilled laborers who are already there. If, however, the immigrants resemble those Americans who go to the Philippine Islands (that is, if they belong to the skilled, the professional, and the employing classes), they tend to make conditions easier for the unskilled laborers but harder for the skilled, the professional, and the employing classes who are already there.

Noncompeting groups. This brings in the principle known by various names, such as the principle of noncompeting groups or the principle of joint demand. In the case of material commodities it sometimes happens that two or more articles have to be combined to supply the same demand, — such as sugar and cranberries, bread and butter, etc. If sugar is so scarce and so high that people cannot afford to buy it, there will be less demand for cranberries; but if sugar is abundant and cheap, so that everybody can afford to buy it, there will be an increased demand for cranberries. In the field of production we get much better illustrations than in the field of consumption. It frequently happens that several different kinds of material have to be combined in the making of a single product,[1] — coal and iron ore, for example, in the making of steel. If coal were scarce and very expensive, and other kinds of fuel likewise, the best iron ore in the world would be of very little use and would have to sell, if it sold at all, at a very low price. With cheap and abundant coal the value of ore beds tends to rise. The same principle applies to different types of labor. Managerial skill, technical skill, and manual labor have to be combined in the production of many manufactures. If there were no manual labor to be had, managerial skill and technical skill would be of very little use; with an abundant and cheap supply of manual labor these other forms of skill become enormously valuable to their possessors. Conversely, with no managerial and technical skill to go with it, manual labor would be worth very little in our industries; with an abundance of managerial labor and technical skill large quantities of manual labor can be utilized so that many industries can start. The first and most important refinement to be made in the doctrine of population, therefore, is to point out that the question of absolute number is not the only question involved, but the question of the occupational distribution of numbers. When the increase in numbers takes place among the unskilled

[1] Compare the law of variable proportions as presented in a previous chapter.

laborers, it works to their disadvantage but to the advantage of those who belong in noncompeting groups, say the technically skilled and those possessing managing ability; but when the increase in numbers takes place in the higher economic classes, it works to the advantage of the unskilled laborer.

Summary. The discussion thus far may be summarized as follows:

1. The wages of any person will depend upon how much his labor is desired. The wages of any class will depend upon how important it is thought to be that there should be more laborers of that class, or that there should not be any less. High wages indicate a strong desire and low wages indicate a weak desire to have *more* of a certain kind of work done.

2. Different kinds of labor usually have to be combined in fairly definite but somewhat variable proportions. If there happens to be more of a certain kind than will combine satisfactorily with the existing supply of the other necessary kinds, the oversupplied kind will not be strongly desired. There will be no great need for more of it, and therefore no strong reason for paying high wages. The kind of labor, however, which is undersupplied will be much more needed. There will be a strong reason for desiring more of it, and the only way, in a free society, to get more of it is to offer high wages.

3. Labor which requires a kind of skill that is difficult to acquire will usually be scarce, relatively to the need for it. Wages must be high enough to induce men to make the necessary effort in order to fit themselves for the work.

4. Unskilled labor is usually abundant, being limited only by the disinclination to work and the standard of living or the cost of bringing up children. Where the cost is high, or the unwillingness great, wages must be high enough to induce men to marry and bring up children. When the cost is low and there is very little unwillingness to overcome, wages may be low because men will bring up children on very low wages and thus keep the supply of labor intact.

CHAPTER XXXIII

THE ORGANIZATION OF LABORERS

Comparative advantages in bargaining. It has long been recognized that in the ordinary bargaining process between laborers and their employers, the laborers are at a disadvantage. The reasons why they are at a disadvantage have been variously stated. It is argued, for example, that the capitalist can wait longer than the laboring man, and thus wear the laboring man out and force him to give in and accept the capitalist's terms. The capitalist, it is said, having an accumulation of wealth, can live on that accumulation. There is doubtless something in this argument, though it is easy to exaggerate it. If the capitalist's accumulation is in the form of buildings and machinery, it is difficult to see how he can live on these things. He might borrow money on the basis of the security which they furnish, and with this borrowed money buy consumers' goods.

It is not so much the fact that he is a capitalist as it is the fact that he has greater borrowing facility that gives him this advantage. If, instead of owning capital, he owned consumers' goods in considerable quantities, — if he owned, for example, his own house, if he had insurance policies or deposits in the savings bank, — he would have the same or even greater waiting power than he has when he owns capital of equal commercial value. It is therefore frequently argued that one remedy for this situation is for the laborer himself, as far as possible, to acquire his own home, life-insurance policies, and deposits in savings banks. This would help, at any rate, to give him the power to wait, and would thus help to even up the advantages in bargaining. But the objection to this is the simple

observed fact that the laborers have less property of any kind than their employers; otherwise they would not be laborers. This being the fact, it does not help much to point out what the laborer might do if the facts were otherwise.

Another reason given for the disadvantage of the laborer in the bargaining process is that he is usually less skillful in the matter of bargaining than his employer. His expertness is more likely to consist of manual skill than of skill in bargaining. The entrepreneur is peculiarly a bargaining person. He literally bargains for everything. If he borrows capital, if he rents land, if he buys raw materials, secures transportation rates, and hires labor, and also organizes a selling department, — every part of his work has to do with bargaining. He becomes, therefore, the bargainer par excellence. Those whose expertness lies in other directions are therefore at a disadvantage when they come to deal with him. This argument is undoubtedly correct as far as it goes.

Employers are few, but laborers are numerous. The third fact, however, which militates to the disadvantage of the laborer and the advantage of the employer is that laborers are numerous and employers are few. There is more competition among laborers for jobs than among employers for men. Wherever this fact does not exist, there is no great advantage on the part of the employer. One conspicuous example would be that of domestic servants. The employer in this case doubtless has more power to wait than the maid. The employer may, on the average, be somewhat more intelligent than the maid. Nevertheless there is no great advantage in bargaining, for the simple reason that there are approximately as many employers as there are employees. Observation seems to show that, in this part of the country at least, it is far more difficult for an employer to find a maid than for a maid to find an employer. When they meet to arrange terms, there is no visible advantage on the side of the employer or disadvantage on the side of the employee. In fact, it sometimes appears

that the advantage and disadvantage are of the opposite kind. There are at least a reasonable number of cases where the employee is very independent and must be placated by an almost obsequious attitude on the part of the employer. A multitude of other illustrations might be given, which in the aggregate seem rather important, though as compared with the number of cases where the employer is at an advantage and the employee is at a disadvantage they are probably insignificant.

It appears, therefore, that the fundamental and permanent remedy for the laborer's disadvantage in bargaining would be such a reduction of the number of laborers and such an increase of the number of employers as would give the laborer at least an equal advantage in the bargaining process. This remedy, however, like all fundamental and permanent remedies, is slow and difficult to bring about. It is slow in the sense that it would take a generation or so to bring it about; it is difficult, not for economic but for political and social reasons. Economically it is perfectly easy; politically it is difficult simply because it would be difficult to get a majority of the voters to vote for such a policy. It may take several generations before a majority vote could be secured for a constructive policy of this kind. Meanwhile the existing laborers would still be at a disadvantage and in need of relief. It would be cold comfort to them to point out that future generations of laborers may be exceedingly well off if the right policy is adopted. Therefore they are inclined to take matters into their own hands and adopt a more speedy remedy, even though it be less fundamental and less permanent.

Collective bargaining. This remedy is that which is known as collective bargaining as against individual bargaining. In a trade where laborers are oversupplied, each individual laborer is in a weak position, because he can easily be spared. He is almost superfluous; he is certainly not indispensable. If he stops working or leaves the community, he will scarcely be missed. Industry will go on approximately as well without him

as with him. Because there is a superfluity of labor his place can easily be filled. Under such conditions his bargaining power is very weak; he is practically compelled to take whatever terms are offered to him. His kind of labor as a whole, however, may be absolutely indispensable. While he as an individual could be spared without much inconvenience, all the members of his trade are absolutely indispensable when considered as a whole. If they were all to stop work, business would have to stop; if they were all to emigrate, the whole business in which they were engaged would be permanently destroyed.

The group may be indispensable, while the individual could easily be spared. The fundamental principle involved in the trade-union policy of the present is the substitution of the indispensable group as a bargaining unit for the dispensable individual. Since the group as a whole is indispensable to industry, if they can bargain as a whole the laborers are in a strong position. As a group they cannot possibly be spared. The difficulty, however, has always been to hold the group together and get them to bargain absolutely as an indispensable group and to refrain from making individual bargains independently of group action.

The trade union. This underlying principle has given rise to one of the largest social movements of modern times; namely, the organization of laborers. Several types of organization, however, have entered the field, and there is still some rivalry among them. In the first place, there is the trade union pure and simple; this is an organization of the men who ply the same trade; that is, the men whose work is of the same kind. The Brotherhood of Locomotive Engineers is an example of this kind of organization.

The industrial union. In the second place, there is the industrial union, which includes all the laborers plying various trades who are engaged in the same general line of industry. The United Mine Workers of America is one example of this

type of organization; the Brotherhood of Railroad Trainmen of America, which attempts to take in all the railroad workers, is another.

The labor union. A third type of organization is what may be called the labor union, which attempts to organize all laborers, of whatever trade or occupation and in whatever industry they may be engaged. The Knights of Labor form an organization of this type and lately the Industrial Workers of the World have attempted a similar type of organization.

The federation of trade unions. The trade union seems in recent years to have been somewhat stronger than either the industrial union or the labor union, but it has felt the need of some larger and more nearly universal type of organization. This has been secured by the federation of trade unions into a national organization known as the American Federation of Labor. This type of organization recognizes that each trade has certain special and peculiar interests of its own and therefore has a special reason for organizing as a trade. This is a principle which seems to be ignored by the labor union especially. By organizing the special and peculiar interests of each trade the federation becomes stronger at this most vital point. By federating the different trades for the furthering of the interests which are common to all it becomes stronger at another important point; namely, the need of concerted action on a nation-wide scale.

The attempt to ignore the special interests of each trade and to unite all workers, of whatever trade or industry, into one universal, undifferentiated organization, has had certain idealistic features which make a strong appeal to men of idealistic temperament. There is the attempt to ignore any possible rivalry of interests among different classes of laboring men. While this sounds attractive, it hardly accords with the observed facts. It is perhaps a little more humanitarian in its philosophy but a little less effective in its methods of work. It might be compared to an attempt to create a unified nation by

ignoring all local interests and internal conflicts, whereas the federation idea might be compared to a system of government which would recognize local and state interests, and allow a certain amount of self-government to the local units, but which would unite them all under a national government for the carrying out of national aims.

Necessity of controlling the supply of labor in its own market. Like all attempts in all fields to bargain to better advantage for the sale of either a commodity or a service, an organization of laborers must get control of the supply of the service which it is trying to sell. This leads to the policy of the closed shop. That is the policy under which none but members of the organization are to be employed in a given shop or series of shops. If any considerable number of outsiders are permitted to work in these shops, they will of course bargain independently and be in a weak position. That very fact also tends to weaken the power of the organization in the bargaining process. Unless the organization can control the supply of labor which is permitted to work in a given trade, — can withdraw them as a body or put them back as a body, — it will find itself unable to secure advantageous terms. If, for example, there were so many nonunion laborers available as to make the employer more or less indifferent as to whether the members of the union worked as a body or withdrew as a body, he would not be likely to pay much attention to the demands of the union. If he knew that, even though the union as a body withdrew from his shop, he could easily fill places with nonunion men, the bargaining power of the union would at once be destroyed.

The closed shop. An absolutely closed shop is very difficult to maintain when there is a surplus of laborers available for a given occupation. So long, for example, as indefinite numbers of foreign-born laborers can be had for the recruiting of the ranks of any trade, nothing but the most drastic measures on the part of the organization of laborers can preserve its control.

It is sometimes necessary, from their point of view, to use a good deal of persuasion, and this persuasion is sometimes of a rather severe nature and often virtually amounts to compulsion.

The strike. The strike has become one of the drastic methods through which an organization of laborers may enforce its control over the labor supply. Theoretically the strike is merely the suspension of work by the laborers of a given trade or group of trades. If there were no waiting list and no available mass of laborers from which to fill the shops which they have vacated, a mere quiet suspension of work would be all that would be involved in a strike. This, however, is seldom the situation. There is generally such an oversupply of labor, especially of the unskilled kinds, as to force the strikers to do something else besides the mere suspension of work. They must manage somehow to keep others from taking their places. This may take the form of peaceful picketing and persuasion; it may take the form of threats; and, in extreme cases, it may even take the form of violence and terrorism. It is to be remembered, however, that threats, violence, and terrorism are only necessary, even from the laborer's point of view, when there is an oversupply of labor available for the jobs of the strikers. The ultimate cure for this situation is that which was suggested earlier in this chapter, — such a thinning out of the number of laborers, especially in the unskilled occupations, as to reduce the number of men to an approximate equality with the number of jobs.

In justification of the strike, even when accompanied by threats and violence, it is sometimes euphemistically stated that the laboring man has a right to his job and no other laboring man has a right to take it away from him. Or, as it is sometimes put, the labor unionist's eleventh commandment is, Thou shalt not steal thy neighbor's job. This, however, is not quite complete; it really should read, Thou shalt not steal thy neighbor's job unless he is a nonunion man, and in that case thou shalt go after it with a club.

Numbers make for weakness in bargaining but for strength in fighting and voting. One large fact which complicates the whole problem of the organization of laborers and their methods is that those who, because of their numbers, are weak in the bargaining process become, by virtue of those same numbers, strong in the making of public opinion and in the election of candidates for office. Roughly speaking, one may say that the more people there are of a certain individual type, the weaker they are in the process of individual bargaining but the stronger they are in making public opinion and controlling elections. It is pretty certain, therefore, that they will use their strength in controlling public opinion and politics to compensate for their weakness in the bargaining process. Whatever our views on the purely ethical aspects of such questions as the closed shop, the strike, picketing, threats, and violence, we must realize once and for all that in a republic, where majorities control, there is absolutely nothing to be done about it. Those who realize that they are weak in the process of peaceful individual bargaining but strong in other ways can be depended upon to use that strength to their own advantage. On the other hand, those who, because their numbers are few, are very strong in the process of peaceful and individual bargaining, must realize that politically they are very weak, since they have very few votes. It would be as futile, therefore, to expect that, when there is an oversupply of labor, the laboring men will go on indefinitely, bargaining individually for jobs and accepting the disadvantages under which they labor and refraining from using the strength of numbers in their own interests, as to expect that the tides should cease to rise and fall or the winds to blow.

When a numerous class realizes that its numbers count against it in bargaining but for it in fighting and voting, it is pretty certain, sooner or later, to try to win back, by fighting or by voting, what it has lost in bargaining. Therefore there are two very good reasons why we should try to maintain a

balanced population. By a well-balanced population is meant a population in which, among other things, each occupational group is no more numerous than is necessary to combine with other occupational groups. If, for example, there are no more spinners than are needed to supply yarn for the weavers, no more of both than are required to combine satisfactorily with other groups, no more unskilled laborers than are necessary to work in combination with the skilled laborers, no more of both than are necessary to work in combination with salesmen, accountants, managers, etc., the population is well balanced so far as these groups are concerned. When this is the case, no group will be at a disadvantage in the bargaining process. That is one reason. The other is that no group would have the motive or the power to win back, by fighting or by voting, what it was losing by bargaining. Such a balancing of our population would eliminate the more acute phases of our labor problem.

CHAPTER XXXIV

THE RENT OF LAND

Rent the price paid for the use of land. The rent of land originally meant the price paid for its use during a given period of time. Its meaning is now extended to cover the income which the owner derives from it, whether he uses it himself or lets it out to someone else. The selling price of land is the price paid as a lump sum for its permanent possession, which includes its use through all future time. Its value is the present estimate of all its future utilities, whether they are sold or kept by the present owner and his heirs. There is thus a very close connection between the value, or price, of land, on the one hand, and its rent, on the other. The rent is the value, or the price, of the flow of utilities which it yields during a given period of time, such as a month or a year. Both the value and the rent of land come under the general law of value; both are determined by utility and scarcity, as is the case with all forms of value.

Why rent is paid. The utility of land is of various kinds and degrees. In some cases land yields its utilities directly, and thus is a consumers' good, or at least resembles consumers' goods in this respect. Parks, pleasure grounds, and residence sites yield their utilities in this way instead of yielding tangible products. In other cases land yields its utilities indirectly; that is, it produces or helps to produce tangible products which are themselves useful. In these cases the utility of land, like that of all producers' goods, is a derived utility. Its utility is derived from that of its products.

There are great differences in the utility or desirability of different pieces of land, whether they are used for one purpose

or for another. In the chapter on land it was pointed out that these differences are mainly in location and fertility. The other qualities which make land usable, such as extension and solidity, all land possesses in equal degree, so that these qualities do not make one piece more desirable than another; but in the qualities of location and fertility there are great differences, and these differences powerfully affect its desirability and its value.

Differences in the desirability of land. The problem of rent may be approached in several ways. In the first place, we may concentrate our attention on the differences in rent or the differences in the desirability of different pieces of land. There is always land somewhere the use of which can be had free of charge. Nevertheless, men will be found paying high rents for other land which is more desirable than that which can be had free of charge. The fact that it is more desirable than the free land is what makes it command a rent. In the case of land which is useful for production only, its desirability is of course determined by its productivity. He who secures the use of a superior piece of land can either produce more at the same cost than would be possible on the kind of land which is free or he can produce the same amount at lower cost. This difference in productivity gives its owner a rent when he cultivates or uses it himself, and enables a tenant to pay rent, in case the land is worked by a tenant.

Location as an element in desirability. That the location of a piece of land will affect its productivity will be clear to anyone who will consider that the cost of transporting goods to market is a part of the cost of production. If one farm is so badly located with respect to railroads and markets that it costs ten cents a bushel to haul the wheat to the nearest railroad, while another farm is so well located that the hauling costs only two cents a bushel, it is evident that if the two farms are equally fertile, the former will be worth considerably less than the latter. The difference of eight cents a bushel in the

cost of haulage would make a difference of $2.40 per acre if the average crop on the two farms was thirty bushels per acre. A tenant could afford to pay that much more for the well-situated than for the badly situated farm.

If land were so abundant that the badly situated farm in the above illustration, and other land equally desirable, could be had rent free, and if it were the most desirable land which could be had free, then land of this type might be called marginal land, or land on the margin of cultivation. By marginal land is meant land which, under the conditions of the market, men would be induced to cultivate if it cost them nothing, but which they would abandon and leave unused if they were required to pay even the lowest conceivable rent for its use. Under these conditions the rent of the well-located farm of the above illustration would be $2.40 per acre, assuming that wheat is the only crop.

The margin of cultivation. Aside from the productivity of the land, two other factors help to determine the margin of cultivation. These are the demand for products and the demand for labor, or the opportunities for the employment of labor. An increase in the demand for products will generally bring land into cultivation which would otherwise have remained idle, whereas a decrease in the demand for products will cause some poor land to be abandoned which would otherwise have remained in use. The margin of cultivation may change, however, for other reasons. When the prairies of the West were brought into cultivation, the margin was extended in that direction; but this threw so many products on the market that some of the less productive lands of New England could no longer be advantageously cultivated. Much of this land was abandoned, and the margin of cultivation was contracted in this section. The extension of the margin on the western frontier and the contraction on the rocky hillsides of New England tended to counteract one another. There was, however, at the same time a growing demand for products,

so that the expansion in one direction more than made up for the contraction in the other. In other words, the total production actually increased, despite the diminution on some of the New England farms.

Factors which extend the margin of cultivation. An increase in the supply of labor which is seeking employment, unless counteracted by a corresponding increase in the demand for it elsewhere, will generally extend the margin of cultivation and cause land to be cultivated which would otherwise have remained idle. This problem may be approached from two points of view. In the first place, idle land may be regarded as an opportunity for idle men. When the supply of labor increases faster than the demand for it, the number of idle men increases. Some of these idle men are then crowded out onto the idle land. Even if they are not actually thrown out of work, the results are much the same. There is always a current of migration from the farms to the towns. When the labor market in the towns is overcrowded, country boys find fewer inducements to leave the country. Therefore they must perforce remain on the farms and cultivate the land. When larger inducements are offered in the towns, more of them leave the farms and less land can then be cultivated.

Another way of approaching this problem is by considering the wages of farm labor. When farm labor can be had at a low cost, some land can be cultivated profitably which could not be if the same kind of labor cost more. Wherever farm labor is cheap, we actually find that there is little land going to waste except the very poorest. Where farm labor is expensive and hard to find, we actually find fairly good land going to waste. Only the best land can be profitably cultivated by expensive labor. It must be remembered, however, that labor is not necessarily expensive merely because wages are high. Very efficient labor may be cheap even though it is paid high wages, and very inefficient labor may be expensive even though it works for low wages. With this explanation it ought to be

clear that, with a given demand for farm products, poorer land can be cultivated if labor is abundant and cheap than would be profitable if it were scarce and dear.

Different grades of land. A partial illustration of the doctrine of rent can be found in a study of the following figure and the explanation which follows it. It is only a partial explanation, however, because it omits the law of diminishing returns. This lack will be corrected in the subsequent illustration and explanation.

Grade A, yielding 1000 units of product to 100 units of labor.
Grade B, yielding 900 units of product to 100 units of labor.
Grade C, yielding 800 units of product to 100 units of labor.
Grade D, yielding 700 units of product to 100 units of labor.
Grade E, yielding 600 units of product to 100 units of labor.

Let us assume a miniature community possessing five grades of land, as indicated in the above figure. On the best grade of land, which is of limited extent, 100 units of labor will produce 1000 units of product; on the next grade, 900 units of product; on the next, 800 units of product; etc. If the demand of the community were for only 1000 units of product and there were only 100 units of labor, only the best grade of land could be used. Until it was all in use there would be no rent. But if the population were to increase so that there was an increase in the demand for products and also in the supply of labor, grade A would not continue to be sufficient. If, for example, the demand were to increase so that 1500 units of product were needed, some of it would have to be produced on the second grade of land, which would thus be the marginal land. On this marginal grade, however, each unit

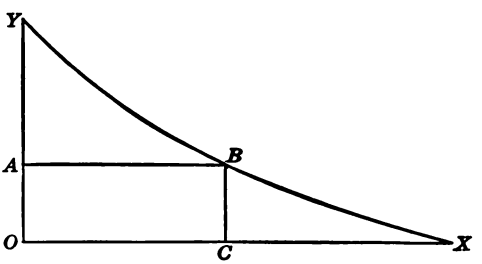
of labor would produce only nine units of product, whereas on the best grade it would produce ten units. Clearly each producer would rather work on Grade A than on Grade B. Because of this preference he can be persuaded to pay something for the privilege of working on Grade A. Approximately one unit of product for each unit of labor would be paid for the privilege of farming on Grade A. An owner of a portion of Grade A who works it himself is better off than an owner of a portion of Grade B. This excess of his income over that of an equally good worker on Grade B is rent just as truly as though he received it in cash from a tenant.

If the demand for products continues to increase until it requires 2500 units of product, some of Grade C will have to be brought into use. This would now be the marginal grade. On Grade C, however, each unit of labor produces only eight units of product. Rather than work on this land, producers would be willing to pay something for the privilege of working on either Grade A or Grade B. Each unit of labor would be willing to pay approximately two units of product for the privilege of working a portion of Grade A, or one unit for the privilege of working a portion of Grade B, rather than be forced to cultivate land of Grade C. In either case it would have as much left as it would have if it got the whole of the product on Grade C without any deduction for rent. If we go on assuming an increase in the population, and a consequent increase in the demands for products and in the number of units of labor available for the cultivation of land, we shall find each of the Grades D and E in succession brought into cultivation, and the rent going up correspondingly on every grade except the marginal one.

Differences in productivity. The differences in the productivity of land may be represented or illustrated by the following diagram if it is understood that lands of different grades are ranged along the line OX, with the most productive piece of land at the point O and absolutely barren land at the point X, with

every variation between. If we measure the productivity of the different parcels on the line *OY*, the curve *YBX* may be called the productivity curve. When a total product represented by the surface *OAYBC* is to be produced, only the land between *O* and *C* will be required. That at the point *C* will be marginal land, and all between *C* and *X* will be unused. The line *BC* represents the productivity of the marginal land, and the surface *YBA* will represent the rent on all the other land in use.

Relation of diminishing returns to rent. This explanation, however, is incomplete, as any explanation of rent is incomplete unless it takes into account the law of diminishing returns. Even on the best land — in fact, on any grade of land — different applications of labor and capital produce different results. After a certain quantity of labor and capital have been applied to the cultivation of a given piece of land, further increase in the labor and capital do not yield proportionately increased returns.[1] If this were not true, it would never be necessary to cultivate any but the best grade of land. If, for example, 200 units of labor on Grade A of the land described in the figure on page 413 would produce 2000 units of product, that would be better than to spread it over both Grades A and B, where it would produce only 1900 units of product. Again, if 300 units of labor would produce 3000 units of product, and 400 units of labor 4000 units of product, and so on indefinitely, we should have what are called constant as opposed to diminishing returns. If constant returns could be secured indefinitely, as stated above, it would never be advisable to cultivate any land but Grade A of our illustration.



[1] As shown in Chapter XXX, on The Law of Variable Proportions.

But the simple and well-known fact is that increasing applications of labor and capital to the same land do not yield constant returns, much less increasing returns. Instead of 200 units of labor yielding 2000 units of product on Grade A, and 300 units of labor yielding 3000 units of product, it is more likely that 200 units of labor would yield 1800 units of product, and 300 units of labor 2400 units of product, or some such quantity. If that were the case, it would be better to take Grades B and C into cultivation rather than to put all the increasing labor supply onto Grade A. Unless something like this rate of diminution in the returns should result, the inferior grades would never come into use at all.

The value of land to the community. Thus far we have been considering the differences in the productivity of different grades of land as the reason why rent is paid and the factor which determines how much rent is paid for land of a given grade. Another way of viewing it, which leads to the same result, is to consider how much better off the community is when a given piece of land is in cultivation than when it is not. If there is an abundance of uncultivated land in every way as good, location and everything considered, as the piece of land in question, the only result of withdrawing it from cultivation would be to bring into cultivation an equal quantity of other land. In such a case the community loses nothing when it is withdrawn from cultivation, nor would it gain anything if it were brought back into cultivation. There being more land of this grade than can be cultivated, some labor must be withdrawn from other land when this piece of land is cultivated.

If, however, there is a scarcity of land of the grade of the piece of land in question, there is certain to be a decrease in the total production of the community if it is withdrawn from cultivation, and an increase when it is brought back into cultivation. If it is withdrawn from cultivation, the labor and tools which were used in cultivating it must now find employment

on other land. If it goes onto poorer land, such as has been hitherto uncultivated, its product will be less. The production of the community is decreased by the amount of the difference between the product on the piece of land in question and the product on the poorer land. If the labor and tools go onto land which is already under cultivation, it merely adds to the number of laborers and tools already on that land, and carries the margin of cultivation a little farther. It will add something to the product from that land, but not an amount equal to the total product formerly produced on the land which is now thrown out of cultivation. The difference between the total amount produced on the land now thrown out of cultivation and the amount which the labor and tools could add to the product from other land measures the loss to the community when the piece of land in question is thrown out of cultivation, and the corresponding gain when it is brought back into cultivation. This difference, however, corresponds to the rent of the land.

The law of rent. The rent of a piece of land, therefore, is determined by the difference between what can normally be produced upon it and what an equal amount of labor and capital can produce in less advantageous positions still open to them. These less advantageous positions may be found either by going onto the inferior lands still uncultivated or by crowding onto land already cultivated.

CHAPTER XXXV

THE SOURCE OF INTEREST

What is interest? One of the most difficult and elusive of all problems in economics is that of the interest of capital. Interest may be defined as the income which goes to the owner of capital, whether he uses it in his own business or lends it to somebody else. This income may take any one of several forms. The most common and clearly understood form is where a definite sum of value, represented usually by money, is loaned by the owner to someone else. The borrower, in return for the loan, eventually pays back not only the principal but a stated sum or percentage of the principal year by year. The transfer of purchasing power from the lender to the borrower, however, does not necessarily take the form of money. It may be rather a claim upon some credit institution for money, as when the lender gives the borrower a check on the bank. The borrower then deposits this check in his own bank and proceeds to draw his own checks against this deposit. In a case of this kind no money is transferred, and the borrower may not even see or handle any money. Nevertheless there has been transferred to the borrower purchasing power in the form of a claim upon the bank for money. But the purpose of the borrower was not ultimately to secure money. Money is to him only a means of purchasing something which he really wants, and if he can make the purchases without actually handling the money, — by handling credit instruments instead, or claims upon a bank for money, — his purpose is answered just as well. Aristotle pointed out long ago that money serves merely as a claim upon society for a share of the general fund of wealth in its possession. A credit instrument is only a more highly evolved claim of the same kind.

In the second place, the capitalist may transfer to the borrower, not purchasing power, but the material goods which the lender desires and which he would buy if he were given the purchasing power; that is, the capitalist may transfer to the borrower specific pieces of capital, such as buildings and machinery, allowing the borrower the use of these pieces of capital for a definite period of time. At the end of the time they are of course to be returned to the lender. Meanwhile a definite sum is to be paid at stated periods for their use. This sum is commonly called rent rather than interest, and there are some reasons for this custom. In the first place, the sum which is paid in the form of money for the use of a group of material objects cannot be reduced to a percentage basis until those objects are evaluated and their quantities stated in terms of value. Suppose that the agreement was, to pay five thousand dollars a year for a certain group of buildings and a mass of tools and equipment. The five thousand dollars a year is not a percentage of the group of buildings. If, however, the buildings are appraised and their value stated as one hundred thousand dollars, then it is possible to reduce the annual payment for their use to a percentage basis. It might then be said that the borrower was paying 5 per cent on the sum borrowed. Unless the transaction takes this form it is more convenient to say that he is paying five thousand dollars rent than to say that he is paying 5 per cent interest. The chief reason for calling it interest is that economists have formed the habit of speaking of rent as that which is paid for the use of land, and of interest as that which is paid for the use of capital. Since the buildings and the equipment are capital rather than land, that which is paid for their use would have to be called interest, unless we change the definition of interest.

Distinction between rent and interest. There seem to be some very important reasons for distinguishing between rent and interest in this way. Land is a natural resource; it is not the product of human foresight or of human industry.

Buildings, tools, equipment, etc. are the products of foresight, enterprise, and industry. That which the landowner receives as rent for his land he receives because he has come into the possession of a natural agent which neither he nor anyone else produced; that which the owner receives for the use of buildings, tools, and equipment he receives for something which he either produced or paid someone else for producing. There seems, therefore, to be a wider difference between that which is paid for the use of buildings, tools, and equipment and that which is paid for the use of land than there is between that which is paid for borrowed money and that which is paid for buildings, tools, and equipment. In this discussion, therefore, we shall adhere to the distinction between rent and interest which nearly all standard books on economics have followed.

In the third place, the income of the capitalist may be secured from the use of capital in his own business. This, however, is sometimes difficult to distinguish from profits. Economists generally distinguish between interest and profits in this way: the business man who has his own capital invested in his business is allowed the current rate of interest on that investment; if he labors or puts in his time supervising the business, he is also allowed a salary or wages of superintendence; if he has anything left over after allowing himself interest and wages, this surplus is called profit or profits. If he has not been particularly successful, the profits may be negative; in other words, he may incur a loss. That means that his total income may not be as great as it would have been if he had gone out of business, loaned his capital at interest, and hired out at a salary as a superintendent.

Interest, therefore, as it is generally defined, includes that which the owner receives for the use of a fund of purchasing power which he transfers to a borrower; that which he receives for the use of a mass of material goods, buildings, tools, equipments, etc. which he permits the borrower to use for a stated period; and that which he receives in return for the capital

which he owns and which he uses, or has invested, in his own business. Care must be taken, in considering these various forms of interest, not to include too much. That which the lender of a fund of purchasing power receives in excess of the amount necessary to preserve the fund intact is interest, and that alone. If any insurance is involved, this must be deducted from the total amount received. Some very hazardous investments appear to pay very high rates of interest. This may be called gross interest, only a part of it being net interest, the remainder being payments for risk and akin to profits rather than interest. Again, when equipment itself is loaned, rather than a fund of purchasing power, allowance must be made for deterioration. Unless the capitalist maintains the quantity of his capital intact, and receives a surplus in addition to this, he has not received interest. It might easily happen that a part of the five thousand dollars received for the buildings, tools, and equipment in the above illustration was necessary to keep the buildings in repair and to recoup the owner for the necessary deterioration. In short, interest is the amount which the owner of capital receives over and above the sum necessary to maintain the original quantity of his capital.

Why is interest paid? The problem of interest thus defined divides itself into two parts: first, why is interest paid? second, what determines the rate of interest? One answer to the first question is that capital is productive. This could apply only to what we have defined as productive as opposed to acquisitive capital. That any kind of capital is productive has sometimes been called in question. Something depends upon the meaning of the word *productive*. No one has challenged the proposition that tools are useful. Those who assert that capital is productive mean absolutely nothing more than this. Those who deny the productivity of capital invariably have some other definition of the word *productive* in mind, and there is not much to be gained by quibbling over the use of words.

If tools are useful, it is pertinent to ask for what are they useful? They are useful for production, not for consumption. With an adequate equipment of tools one can produce more than one can produce with an inadequate equipment. The formula, "More and better tools, more production; fewer tools or poorer tools, less production," supplies the farmer and the business man with as good a theory of economic causation as any logician has ever been able to invent. If I am a farmer and perceive that with an additional horse I can grow a larger crop than I could if I did not have that additional horse, I am not likely to puzzle my head very much over abstruse questions of economic causation. The fact that a larger crop will result from my using another horse is a sufficient reason why I should try to come into possession of that horse.

Marginal productivity of capital. It is true, as has been pointed out and argued ad nauseam, that if I did not have any plows or tools to use with the horse, he would be of no use; or if I did not have any labor to direct him, he would not produce anything. This line of argument, instead of proving that the horse is not productive, merely proves that other forms of capital, as well as labor, are also productive. In any given situation, with any given type of equipment, find out how much you can produce without any particular unit, say the horse in question, and then how much you can produce with it, and you have a measure of the productivity of that unit in that situation. At any rate, it is a fair test as to how much that unit would be worth when added to the rest of the equipment. If there is another farmer whose equipment calls for an extra horse, and if an extra horse will add more to the product on his farm than on mine, the other farmer will bid against me for the horse, and under the circumstances can afford to pay more for it than I can. If he has n't the money with which to purchase it, he can afford to pay a little more for the use of the money than I can afford to pay. Apply this test to each and every kind of capital required, not only

on farms but in shops and factories, railroads, stores, etc., and we get an idea of the test of the usefulness, or productivity, of capital. It might very well be, however, that on another farm, where there was a surplus of horses, the farmer in charge would find that one more horse would add little or nothing to his crop. Having a surplus of horses, what he would need more than he would need an extra horse would be some extra plows and harrows, or plows and harrows of a larger size, to balance his equipment. If he understands the situation, he will see that it is to his advantage to sell some of his horses or else to buy other equipment. This balancing of the equipment of industries goes on all through society and is one of the fundamental problems of business management.[1]

Here we must repeat a caution which was given in the discussion of value. We are not to discuss the productiveness of labor in general or of capital in general, any more than we are to discuss, under the problem of value, the utility of bread in general, meat in general, or water in general. We are always concerned with definite units which may be added to or subtracted from the existing supply. Therefore we are not concerned with the productiveness of horses in general, cows in general, or even capital in general, but with the need for definite units of capital, such as one horse more or less, one cow more or less on a given farm, one boiler more or less in a real factory, and so on through the whole range of industry. Wherever any producer finds that he could use more capital of any form advantageously, he has a perfectly good reason for trying to get an additional unit of that particular kind of capital. Whether we call it the productivity of the unit of capital, or merely its usefulness, does not matter.

The opposite method of reasoning is involved in the statement that if there were no labor, capital could not produce anything. This is dealing with labor in general and capital in general. It is likewise true, of course, that if there were not

[1] Compare Chapters XV and XXX.

any capital, labor would not be able to produce very much during the next month or the next year, — not, in fact, until it had equipped itself with a new supply of tools. It might very well happen that in any definite community, like the overcrowded section of a great city, there would be more unskilled labor than could possibly be used at that particular place. The formula "More of this particular kind of labor, more product" would not apply. When we speak, therefore, of the productivity of capital, we do not mean that capital is productive under all possible circumstances, regardless of the surroundings. Neither is labor productive in that sense; it has to be located where there is at least land available, and in order that it may be very productive it must have an adequate supply of tools. In short, nothing is productive when it stands alone, unrelated to many other things in the surrounding universe. Labor, of course, is a more fundamental and primary agent of production than capital, since capital is itself the result of labor, thrift, and enterprise. But we are not, in a practical work on economics, dealing with an absolutely primitive economic situation; we are dealing rather with the conditions which we find all around us, and with the specific needs of specific industries and specific communities.

What does capital include? As capital was defined in the chapter devoted to that subject, it includes something more than producers' goods. It includes consumers' goods which are loaned, rented, or hired in order to secure income for their owner. In these cases the income of the capitalist is not due to the productivity of the consumers' goods thus loaned; it is due rather to their usefulness in consumption. He who builds a dwelling house, or hires someone else to build it, and then rents it to an occupant, is virtually selling the flow of utilities which the house furnishes to the occupant during a definite period of time. These utilities are in the form of comfort, convenience, luxury, and even style in some cases; but the problem of interest is much the same, in the last analysis, whether the capital be productive or acquisitive.

Capital itself, not its value, is productive. Those who deny the productivity of capital generally have a special definition of capital. Instead of thinking of productive agents they are usually thinking of a sum of value. They do not necessarily mean money, but a fund of value which is embodied in capital goods. Of course the value of capital goods does not produce anything. The value of the horse does not cause him to do good farm work; it is the fact that he does good farm work which causes him to have value. If, instead of thinking of the farmer's capital as horses, cows, and other equipment, we think merely of the value which is embodied in them, we may easily reach the conclusion that capital is not productive; but if, instead of thinking of the value which is embodied in them, we think of the objects themselves, we can hardly avoid the conclusion that they are the agents by which production is increased.

In order to bring the law of interest under the general law of value, let us recall the fact that things have value only when they are wanted by someone. This is as true of capital as of anything else. If we confine our attention to that portion of capital which consists of producers' goods, without considering the subject of consumers' goods which are used by their owners for the getting of an income, it is safe to say that the use of capital is desired only for the sake of what it will add to the productive power of the user. He does not want it for his own sake. If it added nothing to his productive power, he would not want it and would not be willing to pay a price for the privilege of using it. Even the owner desires to own capital not because capital is itself capable of use later but because it is capable of adding to his income. If it added nothing to his income (that is, if, as the result of using it in his business, he was merely able to get back the original cost, that is, the principal), he would have no motive for owning it or using it. The more it will add to the productivity of his business, the more he will desire the use of it.

Why capital is wanted. The productivity of capital, or the advantage of having the use of it, is subject to the principle of marginal productivity, as is the productivity of labor and land. If you increase the number of instruments of a given kind in any industrial establishment, leaving everything else in the establishment the same as before, you may within limits increase the total product of the establishment somewhat, but you will not increase the product in proportion to the increase in the number of instruments in question. If you increase all the instruments in a given industrial establishment without increasing the labor at the same time, each instrument will be used a little less intensively, or it will be idle a greater number of minutes per day, simply because of the scarcity of labor. On the other hand, of course, if you diminish the number of instruments or the total equipment, leaving the amount of labor the same, each instrument, or each unit of the equipment, will have to be used more intensively.

The productivity of capital decreases, other things being equal, as its quantity increases. Take a farm, for example. With a given labor force, the greater the number and variety of tools and implements, the less intensively each one is likely to be used; and the smaller the number, the more intensively each is likely to be used. There are many farms on which it is found that there are such a number and variety of tools and implements that the farmer is really not getting any interest on a large part of his investment. Some expensive tools are idle so much of the year that they do not pay for themselves; that is, the farmer never gets back the original price which he paid, to say nothing about getting interest on that price. On the other hand, there are other farms so poorly equipped that every tool in the farmer's equipment is used very intensively, and it would be money in the farmer's pocket to invest in additional equipment. For every dollar which he put into more and better tools, he would get back not only the original cost price but something in addition which could be called interest on the investment.

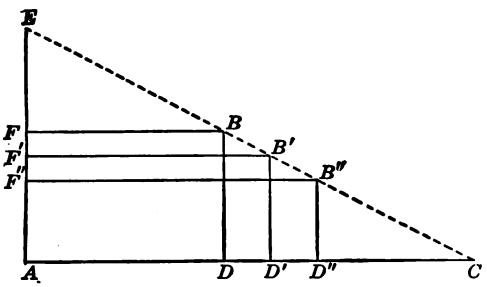
That which is found to happen on farms is also found to happen in larger industrial establishments, factories, railroads, etc.

That which is true of an individual farm, shop, or other business establishment is also true of the community as a whole. If, for example, there are very few plows in a given community where there is an abundance of land, many laborers, and much other capital besides plows, each and every plow would be a matter of considerable importance; it would be in general demand and would be used a great number of days in the year. Under these conditions you could say of that community, "One more plow, considerably more product; one less plow, considerably less product"; in short, the marginal productivity, in that particular community, of that form of capital called plows would be high. If, on the other hand, there were a great number and variety of plows in the community, other factors remaining the same, each one would be a matter of much less importance; each one would be idle a greater number of days in the year. Then you could say, "One more plow, comparatively little more product; one less plow, comparatively little less product"; in short, the marginal productivity of plows would be low.

Applying the same method of reasoning to other forms of capital or to all forms of capital, we reach the same conclusions. An abundance of all forms of capital, land and labor remaining the same, would give a low marginal productivity to capital; whereas a scarcity of all forms of capital, land and labor remaining the same, would give a high productivity to all forms of capital. This would show itself in the case of liquid, or uninvested, capital. Where all forms of capital are scarce, one hundred dollars invested in tools would add considerably to the productivity of the community; but where all forms of capital are very abundant, then one hundred dollars invested in additional tools would be of comparatively little value.

The following diagram will serve as an illustration of this law and also as a means of introducing the next question to be considered in the general problem of interest.

Let the amount of capital in the industrial community be measured along the horizontal line AC; let the productivity of capital be measured along the perpendicular line AE; and let the descending line EC represent the rate of decrease in the marginal productivity of capital. If the amount of capital were measured by AD, the marginal productivity would be measured by the line BD, or AF. If the amount of capital were measured by AD', the marginal productivity would, other things remaining equal, be measured by the line $B'D'$, or AF'; and when the amount of capital equaled AD'', marginal productivity would equal $B''D''$, or AF''. From this it follows inevitably that if capital went on increasing to AC, the marginal productivity of capital would be destroyed altogether. That is to say, the supply of capital would have reached that limit where no more could be used to advantage, and some could be spared without loss.[1]



[1] T. N. Carver, The Distribution of Wealth, pp. 223–224. The Macmillan Company, New York.

CHAPTER XXXVI

THE COST OF CAPITAL AND ITS PRICE

Why capital is scarce. Seeing that the productivity of capital, or its advantageous use, diminishes as the supply of capital increases relatively to other factors, and increases as the supply of capital diminishes relatively to other factors, it is quite important that we should be able to account for the supply of capital as well as for its demand. Its demand, as has already been suggested, is based upon its desirability in production, that is, upon its productivity or the opportunity for its advantageous use. Unless, therefore, the supply were in some way limited, capital might become so abundant as to leave it with no marginal productivity. We found, when we were discussing the value of commodities, that the cost of producing them operated as a check on production and kept the supply within such limits as would give them a price approximately sufficient to pay the cost of production. Some factor must be found which will limit the supply of capital.

The irksomeness of waiting. There are two factors which are obviously at work. One is the mere cost of producing the capital goods; the other is the cost of waiting, or the disinclination which the average individual feels toward waiting. The cost of producing tools needs very little discussion. Unless the farmer's plow will return him, before it is worn out, enough to replace the price which he originally paid for it, he will of course have no motive for paying that price. If plows should become so numerous on a given farm that the farmer felt that he would probably never get back enough from a new plow, added to those already in use, to repay the price of that plow, it would be foolish for him to buy it. If every

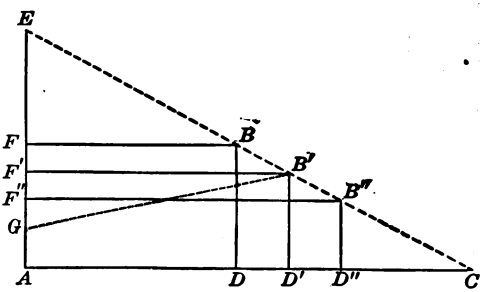
farmer behaves in this way, certainly no more plows will be bought than can be used with that degree of advantage. If he has to pay fifty dollars for a new riding plow, and if he figures that in the course of its lifetime it will add only fifty dollars to his product over and above what he could produce with his existing equipment, then he would of course gain nothing from its purchase; he would merely get back the original purchase price. If the average farmer had no disinclination toward waiting, it is probable that farmers would buy so many plows as to reduce the marginal productivity of plows to the level of the cost, that is, to the level of the purchase price.

But suppose that the plow which cost fifty dollars will return the farmer only five dollars a year and will last ten years; it then just replaces its original cost; the farmer will have got back at the end of ten years the money which he put into it, and no more. Meanwhile he has had to wait ten years. If he did not mind waiting, — if waiting were not in the slightest degree irksome to him, — he would probably be willing to buy a plow under such circumstances, though there would be neither loss nor gain. If, however, he does not like to wait, — if he prefers present enjoyment to future enjoyment, — then he would hold on to his fifty dollars in the first place rather than spend it for something which will return fifty dollars in ten years' time. Under these circumstances he will certainly not buy the plow unless he has so few plows as to give a higher marginal productivity than that which we have been discussing. If he has so few plows that the possession of an additional plow will in the course of ten years add one hundred dollars to his income, he will add fifty dollars to his wealth during the ten-year period, — that is to say, fifty dollars will go to replace the purchase price of the plow; the other fifty dollars is surplus. This and this alone is interest, and a rather high rate of interest, namely, 10 per cent. But if every farmer is likewise disinclined to wait, the market for plows will be limited. Only as many will be purchased as will yield a return large enough to

more than pay the purchase price. In other words, farmers in general will get some interest on that which they invested in plows.

This may be illustrated by the following diagram.

Let us suppose, as in the former diagram, that the number of implements of a certain kind, say plows, is measured along the line AC, and their marginal productivity along the line AE. In this case, however, we mean their total marginal product during their average lifetime, or that amount which an average plow will add to the product of the community during its lifetime, over and above what could be produced without it. To distinguish this from the marginal product per year, we shall call it the total earnings of a plow. Letting the descending curve represent the decline in the total earnings of each plow as the number of plows increases, the line DB, or AF, would represent the total earnings of each plow when their number was represented by the line AD. When their number is AD', the total earnings of each would be $D'B'$, or AF'; and when the number is AD'', the total earnings of each would be $D''B''$, or AF''. Let us further suppose that the cost of making plows is represented by the perpendicular distance of the various points on the ascending curve GB' above the base line AC. If this cost were the only check on the production of plows, there is no reason why they should not increase to the point D', where the total earnings of each plow would just pay the cost of making the most expensive part of the total supply. They would sell at the uniform price of $D'B'$, or AF', which would be their normal equilibrium price. The total earnings of a plow would then just cover the price which the buyer would have to give for it.[1]



Why the present value of a productive agent is less than the future value of all its products. Now, as a matter of fact, people do not like to wait. Waiting is to some quite as irksome

[1] T. N. Carver, The Distribution of Wealth, pp. 226–227. The Macmillan Company, New York.

as working. It is also quite as necessary to efficient production. Anything, whether it be working, waiting, or risking, which is necessary to efficient production, and which at the same time is irksome, must be paid for. The fact that it is necessary for production furnishes a sufficient motive for paying for it; the fact that it is irksome makes it necessary to pay for it, because men will not otherwise perform this function. In order that there may be an adequate supply of tools, which is necessary for efficient production, there must be waiting. Labor must be performed in the making of the tools, and then somebody must wait until they have been used for a number of years in order to get back from their use the equivalent of that which was originally expended in making them. If the laborers who make the tools are not themselves willing to wait, they may sell them to someone else, who then undertakes to wait for their products to mature. If both the laborers who make the tools and the one who purchases them are disinclined to wait, their market price will have to be something less than the sum of their future earnings. The laborers, being disinclined to wait, will be willing to sell for a cash price somewhat lower than the total sum of the future earnings, and the purchaser will not be willing to pay a price which would equal the sum total of the future earnings. In the price-making process, therefore, the capital goods must necessarily sell for less than the sum of the future earnings. The buyer who holds them during their lifetime finds himself in possession of a surplus, which is his compensation for waiting.

Take the case of a blacksmith who, by his own labor, makes a plow out of materials which cost him five dollars. Let us suppose that he can in a fortnight make a plow which will earn a total of thirty dollars during its lifetime of ten years. Deducting the cost of materials, this leaves him twenty-five as the net earnings of his fortnight's work; but he must wait for his wages, receiving them in installments over a period of ten years. If he does not mind waiting, this will be no drawback, and he would just as lief make a plow as work for the same amount in cash or in present consumable goods. Or, having made such a plow, he would not sell it

for less than thirty dollars, the total amount which it will be expected to earn during its lifetime.

But if he does mind waiting, and would much prefer to receive his wages at once, he would not make plows at all so long as he could earn twenty-five dollars per fortnight in present consumable goods. Or, having made a plow which will earn thirty dollars in the course of its lifetime, he would be willing to sell it for less than that amount, which, counting out the cost of the raw materials, would net him less than twenty-five dollars for his work. If no blacksmith could be found willing either to wait ten years for his wages or to accept less than twenty-five dollars for the amount of work necessary to make a plow, no ploughs with such small earning capacity would be made unless someone else could be found who did not mind waiting and who would therefore be willing to pay thirty dollars for a plow and then wait ten years to get his money back. But if no such person could be found, the making of plows would stop until their growing scarcity raised their marginal productivity and their total earnings somewhat above thirty dollars.[1]

Though it is not likely that anyone would be willing to wait ten years to get his money back, he might be willing to wait if he could get back not only the original sum of money but a surplus besides. The farmer, for example, might be willing to pay thirty dollars for a plow which would in the course of ten years earn him fifty dollars. The twenty dollars surplus would be interest. The problem, as it presents itself to the farmer who is contemplating investing money in a plow, is very much the same as the problem which presents itself to a lender who is contemplating lending money to someone else. As a rule he prefers to keep his money rather than lend it, unless he can get a surplus by lending it. Every form of investment involves the same problem. The investor is compelled to give up something in the present — that is, either money or the opportunity to spend money for present goods — in order that he may have the means of securing the money or goods at some time in the future. The disinclination which is generally felt toward waiting is such that men will

[1] T. N. Carver, The Distribution of Wealth, pp. 229–230. The Macmillan Company, New York.

not, as a rule, invest and wait unless there is a chance to get a surplus. The surplus is then in a sense the reward for waiting.

It is not to be assumed that there is anything inherently meritorious in waiting merely for the sake of waiting. The only merit there is in the process is in the increased production which comes through the use of effective tools and equipment. Since, furthermore, one cannot provide one's self with effective tools and equipment without waiting or inducing somebody else to wait, we have a sufficient reason why waiting should be paid for when it results in increased production. If it does not normally result in increased production, there is no reason for waiting and therefore no reason why it should be paid for.

Not all waiting is irksome. While it is true that, as a general rule, men are disinclined toward waiting (that is, they prefer present to future goods), still there is a certain amount of waiting which takes place normally without any great amount of sacrifice, and which therefore does not need to be paid for. There would be some saving even if no interest could be secured on savings. In fact, it is probable that a considerable amount of saving would take place even if men were compelled to hire vaults or storage places in which to keep their savings. In this case savings could be said to yield negative interest rather than positive interest.

In so far as it is true that men estimate present consumption higher than future consumption, it applies only to the consumption of corresponding or similar increments of income. A man with a large income may be said to derive less utility from the last dollar of his income than from the others; or, to put it in another form, he can lose one dollar of his income with comparatively little feeling of loss or sacrifice, but if, with the same general scale of wants, his income were much smaller, then the loss of a dollar would be more keenly felt. If his income is very large, he may find it difficult to spend it all on present consumption. In this case it may be

easier to save it than not to save it. To invest a little of one's large income, therefore, involves no cost or sacrifice whatsoever.

On the other hand, anyone who is gifted with a moderate degree of foresight will look ahead and consider the possibilities of future emergencies. He may therefore lay up for a rainy day, for sickness, or for old age, even though there is no possibility whatever of securing interest on his savings. If one who has a large present income foresees the possibility that at some future time his income may be cut off, he may reason somewhat as follows: "I can spare the few unimportant luxuries which the last hundred dollars of my income will buy, without any appreciable sacrifice. At some future time this hundred dollars might supply my most pressing needs, if I should find myself some day without an income. Therefore it will be very much better if I save this hundred dollars, and lay it up against that day, than if I consume it now." Another person, with a smaller income, would reason in the same way, though the sum which he would lay up would be smaller. And a person with a larger income would likewise reason in the same way, though the sum which he would lay up would be larger. Taking the whole community, especially if it contains a great many well-to-do people, a considerable mass of wealth would be saved for this reason alone. This kind of saving may be said, therefore, to involve no cost; and yet those who save in this way are able to secure interest on their savings, along with those who save at considerable sacrifice.

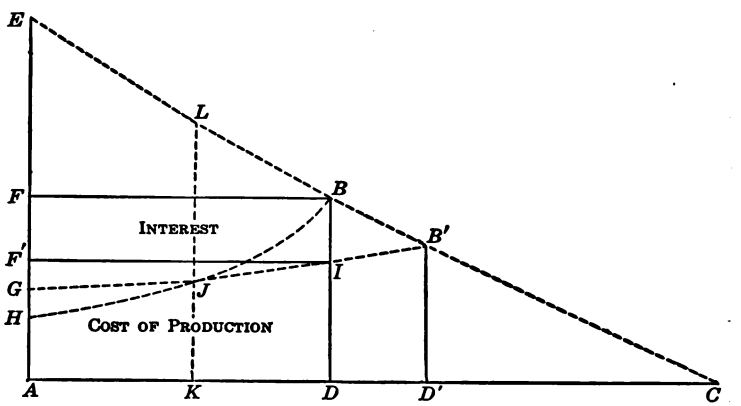
Some capital accumulated without expectation of interest. If those sums which are saved in this way without sacrifice were sufficient to meet the demands of all communities for capital, such a thing as interest would not exist; that is to say, if so much were saved in this way, and there were so few opportunities for using capital as to reduce the marginal productivity of capital to the minimum point, capital would practically be a drug on the market. If, however, the opportunities

for the productive use of capital are so great that more capital is demanded than can be saved without cost, then, in order to induce further saving, a surplus must be paid for its use.

Interest a part of the general law of value and price. The price which is paid for the use of capital comes under the same law as the price which is paid for anything else. In the chapter on Scarcity it was pointed out that some goods are produced, under certain circumstances, practically without cost. Trout, where the fishing is good, are caught for the pleasure of the sport. If the number of trout that can be caught for pleasure is sufficient to satiate the desire for trout, then trout commands no price; if this quantity is not sufficient to satiate the desire, and consumers are demanding more, then they must begin to pay a price to induce other fishermen to undertake the work of providing an adequate supply. The law here is the same as that which controls capital. Some capital will be accumulated without cost. There is probably no community in existence, however, in which enough capital to supply all demands is provided in this way. It is therefore necessary for all who need it to offer a price in order to induce a larger volume of saving than would take place if no interest were paid, — that is, no price for the use of capital.

The cost of saving is like other forms of cost, ultimately a matter of psychology. Among people who are gifted with a large degree of forethought, saving is less irksome than it is among people who live mainly in the present. Among people of the latter class very little saving will take place unless there is a distinct reward for it. Among people of the former class a great deal of saving would take place even if there were no reward. A community with little forethought is therefore always a community in which interest rates are high, because there will be small accumulations of capital and, the supply being small, there is great need for more. It is the need for more of a thing which induces people to pay a price for it.

The functional theory of interest. This theory of interest may be called a functional theory of interest, to correspond with the functional theory of value and the functional theory of wages, which have already been outlined. The function of a high price, as has been pointed out, is to call forth a larger supply; the function of high wages is to induce a larger supply of the labor which receives high wages; and the function of a high rate of interest is to call forth a larger supply of capital for which interest is paid. A community that needs more capital can get it only by inducing larger savings. These



larger savings may be secured either by compulsion (that is, by taking a part of the social income by authority and setting it aside) or by attraction (that is, by offering a reward for saving). There is no other possible way that has ever been suggested, even on paper, of accomplishing this necessary result.

Let us assume that the amount of a certain kind of capital is measured along the line AC, and its marginal productivity along the line AE, the descending curve EC representing the decline in the marginal productivity as the supply increases. If there were nothing to check its production but the cost of producing it, the supply would normally increase to the point D', where the marginal product would just cover the marginal cost, and there would be no interest. This point is located by the intersection of the cost curve GB' with the productivity curve EC. But in addition to the

cost of production there is the disadvantage or sacrifice of waiting. The effect of this is illustrated by the rising curve *HB*. This curve represents, by its distance above or below the cost curve *GB*, the positive or negative sacrifice of saving the different parts of the supply of capital. Where this curve is below the cost curve, it means that there is an advantage rather than a disadvantage connected with the exchange of present for future goods which saving implies. Where this curve coincides with the cost curve there is neither advantage nor disadvantage connected with saving, but when it rises above the cost curve there is a disadvantage connected with saving which becomes a check upon the production of capital in addition to that effected by the cost of producing it.

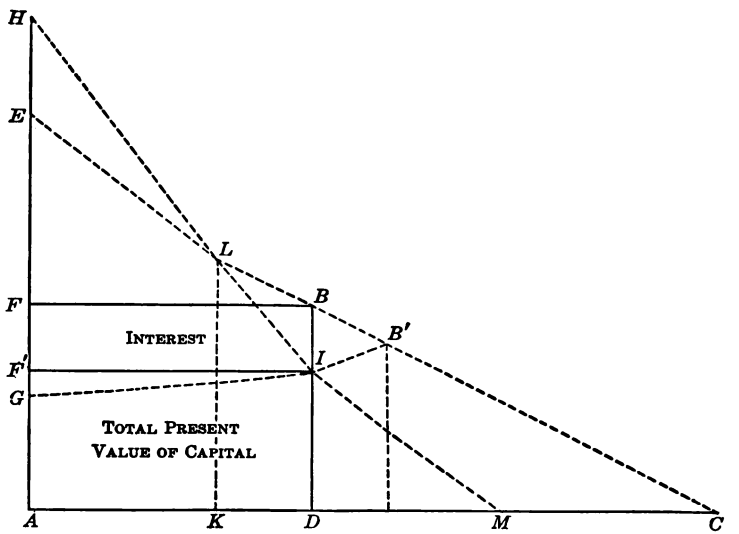
If the production of capital should stop at the point *K*, where, as shown by the intersection of the abstinence curve *HB* with the cost curve *GB'*, there is neither advantage nor disadvantage connected with saving, its marginal productivity would be represented by the line *KL*. This would give its owner an advantage far in excess of any disadvantage connected with its production, and this would stimulate its further production. But in order to increase its production it would be necessary to do more waiting as well as more work. From this point on, further waiting begins to be burdensome, acting as a positive check upon production. The normal tendency would be for capital to increase up to the point *D*, where the combined disadvantage of working and waiting, or of cost of production and abstinence, would be just compensated by the marginal productivity of that kind of capital. At this point the marginal productivity would be represented by the line *DB*, the marginal cost of production by the line *DI*, and the marginal abstinence by the line *IB*. The total present value of that kind of capital would then be represented by the parallelogram *ADIF'*. The total product of the present supply of capital during its lifetime would be represented by the parallelogram *ADBF*, and the total surplus, or interest, by the parallelogram *F'IBF*.

THE PURCHASER'S DEMAND FOR AGENTS OF PRODUCTION

The same result is reached by approaching the subject from the side of demand, and regarding the disadvantage of waiting as reducing the purchaser's demand[1] for capital instead of checking its supply. It is, generally speaking, the amount which purchasers will pay for it which constitutes the reward of the makers of capital and serves as an inducement to continue the work of production. So long as the purchaser's demand will give plows, for example, a price equal to the cost of producing them, the

[1] As distinguished from the borrower's demand.

producers will continue their work. As already pointed out, if there were no disadvantage connected with saving, men might be expected to pay as much in cash for a piece of capital as they expect it to return them in the way of income during its lifetime. In that case the purchaser's demand curve for capital would coincide with the productivity curve of the foregoing diagram. There would then be an equilibrium of supply and demand at the point where the demand-productivity curve *EC* intersects the cost curve *GB'*. But since there is a certain disadvantage connected with saving, and men are not always willing — not even those who inveigh



against interest on capital — to pay as much in cash, or present consumable goods, for a piece of capital as it will produce during its lifetime, the purchaser's demand curve does not coincide with the productivity curve, and the equilibrium of demand and supply is reached at some other point.

This way of approaching the problem may be illustrated by means of the above diagram, which is a modification of the diagram on page 437. The purchaser's demand for capital is, in this case, represented by the descending curve *HM*, which bears the same relation to the productivity curve *EC* as the abstinence curve *HB* bore to the cost curve *GB'* in the last diagram. Where this demand curve is above the productivity curve, it means that men are so anxious to provide against the uncertainties of the future that they will give a larger number of present goods for the

sake of having a smaller number at some time in the future, or that men of enormously large incomes would have so much trouble trying to consume them all that they would rather invest a part in some enterprise for the sport of carrying it through, even though they may never get all their money back, while men of moderate incomes would rather provide against a rainy day than to consume all their incomes, even though their savings shrink in the interval. Yet if the enterprises return a surplus, and the savings expand, both classes of savers will take advantage of the possibility of getting an increase. Where the demand curve coincides with the productivity curve, it means that there is neither advantage nor disadvantage connected with saving; and where the demand curve falls below the productivity curve, it means that there is a disadvantage connected with saving, and therefore less will be paid for a piece of capital than it will earn in the future.

Under these conditions the equilibrium of demand and supply, which determines the present selling value of agents of production, would be reached when the supply of capital was represented by the line AD, for this would be the point where the purchaser's demand for the different forms of capital would give them a value just equal to their marginal cost of production. Yet the marginal productivity of that amount of capital would be represented by the line DB; the present selling value of capital, which is equivalent to the present value of its future product, would be represented by the line DI; and the surplus which would come to the buyer who took it at its present selling value and waited for its earnings to mature would be represented by the line IB. The total present value of all now-existing capital would be represented by the parallelogram $ADF'I$; its total future earnings, computed on the basis of its marginal productivity, by the parallelogram $ADFB$; and the total interest or surplus which would come to those who buy the capital at its present value and wait for its product to mature would be represented by the parallelogram $F'IFB$. The annual interest would have to be computed by dividing this gross amount by the average lifetime of the now-existing capital. This would give the lump sum going as interest to the owners of capital each year. The annual *rate* of interest would have to be computed by finding what percentage the annual interest is of the total present value of the capital.[1]

[1] T. N. Carver, The Distribution of Wealth, pp. 242–249. The Macmillan Company, New York.

CHAPTER XXXVII

PROFITS

What are profits? Profits may be broadly defined as the income of the independent business man who receives neither stipulated wages, rent, nor interest. In a somewhat narrower sense they include whatever he has left over after he has allowed himself interest on his own capital, rent for his own land, and wages for his own labor. This would seem to narrow the meaning of profits down to the reward for taking risk, though risk must be defined rather broadly. The enterpriser, as the independent business man may with fair accuracy be called, is essentially the man who undertakes something and relieves others of a part at least of the risk which they would otherwise have to take.

It would be quite possible, for example, for a group of laboring men to borrow capital, build their own factory, and run it. But if they did so, they would always be in danger of losing not only what they themselves had invested, but even their wages for a time; that is to say, if there should come a bad season, when the demand for products fell off, they might have to work for very low wages or for none at all. If some individual or group of individuals will undertake to run the business for them and guarantee them a certain fixed rate of wages, they are relieved of a part of that risk.

Profits as payment for insurance. Again, the men who furnish the capital may jointly assume all the risks of the enterprise. They may, however, be in part relieved by having one individual or group of individuals undertake the business and guarantee them interest on their capital. In such a case, however, the enterprisers usually have to invest some of their

own capital. In such cases they, the enterprisers, put their own capital in the most hazardous position. This is virtually the distinction between common stock and preferred stock in a corporation. Those who own the common stock take the greater risk. So long as the enterprise is running at all, the owners of the preferred stock must get their interest, whether the owners of the common stock get anything or not; but if the enterprise is very successful, the owners of the common stock get larger returns than the owners of the preferred stock. These larger returns over and above the rate of interest will be called profits.

The lure of an enterprise. In a smaller business, run, let us say, by an individual rather than by a corporation, the individual may borrow a part of his capital, and in this case, so long as he is in business at all, he must pay interest on what he borrows, whether he has anything left for himself or not. In case the business succeeds very well, he gets a surplus which may be called profit. The lender of borrowed capital gets no more than the stipulated rate of interest. It is the function of the independent business man or the enterpriser to insure the other participants in the industry against at least a part of their risk. Any income which the insurer gets over and above the normal rate of interest on the capital which he himself puts in may be called profit. This is the lure which induces men to undertake risks of this kind.

This suggests a functional theory of profits which fits in with the functional theories of value, wages, and interest already described in the previous chapters. The function of high profits is to induce a larger number of men to undertake independent enterprises. Where a larger number of such enterprises are needed, there are only two ways of getting them started. One is for the community as a whole to take a part of the social income and by authority invest it in new enterprises; the other is to offer a special inducement to private individuals to undertake the new enterprises voluntarily.

This is usually done by the offer, on the open market, of high prices for the products of the enterprise.

Necessity of taking risk. Risk-taking is no more meritorious in itself than is waiting or working. It is meritorious only when it results in increased production and well-being. Still, the well-being of society or the increased production of the goods which society needs makes it absolutely necessary that some risks should be taken. Risk is therefore something which cannot be avoided. These risks are of many kinds and degrees. The tastes of the people may change so that the product which is to be produced may be no longer desired. Some new invention may render obsolete the processes used and the machinery which has been installed. Strikes, insurrections, wars, and unforeseen physical calamities, such as fires, storms, and earthquakes, must also be taken into account. It would be very difficult to imagine any productive undertaking that did not involve risk. In the case of the farmer, bad weather, insect pests, and diseases of all kinds threaten to decrease or destroy his income. Risk-taking is therefore as necessary as working or waiting in order to get effective production under way.

Irksomeness of risk. Unless, however, risk-taking were in some way irksome or disagreeable, it would not deter men from entering business, and there would be nothing here that would have to be paid for. That is to say, if people liked to take risks, there would be no hesitancy in entering a risky occupation. It would therefore not be necessary to offer a reward to induce men to enter it. But since risk-taking is irksome or disagreeable, since men would rather not hazard their accumulations and their present income, they must be paid something as a lure, or attraction, to overcome this disinclination. The reason here is precisely the same as the reason for paying wages or interest, or for paying the price of any commodity. The function of price, in a free country, is to overcome the disinclination to work, wait, or to take risks.

NOT ALL RISK IS IRKSOME

It is not to be inferred, however, that all risk is burdensome. The gambling instinct is so strong in some people that they will eagerly hazard their wealth on chances which they know to be against them purely for the excitement of the hazard. Different individuals differ greatly in this particular, but in general it will be found that small sums will be risked on the chance of winning large ones more readily than large ones will be risked on the chance of winning small ones, even when the chances in the latter cases are more than proportionally superior. So great is the preference for the former class of hazards that a great many men — one might almost say the majority of men — will risk $1 on the chance of winning $1000, even when it is well known that there are 2000 chances to one against their winning. That is why lotteries flourish where they are not suppressed by law. But very few will risk $1000 on the chance of winning $1, even if they know that there are 2000 chances to one in favor of their winning. If a company should offer to sell 2000 tickets at $1000 each, only one of which was a blank, all the rest drawing prizes of $1001 each, it would be making a better offer than any lottery ever has made or ever could make; but it would probably not be able to induce 2000 individuals to buy tickets. And yet such a company would be offering a good risk, as risks go, and anyone who kept on buying them would gain in the long run, though he might lose all his money on the first venture.

DIFFERENCE BETWEEN GAMBLING AND LEGITIMATE RISK-TAKING

Things are happening all around us every day which cannot be foreseen. We can therefore very easily discover or invent ways of taking risk that have no connection whatever with production or any kind of useful work. Men may bet upon the weather, the speed of horses, the outcome of an election, the way a flipped coin will fall, or which way a cat will jump, but in none of these cases is there anything accomplished as a result of the wager, except the transfer of money from one person to another. These are pure gambling risks and have no connection with any economic function. The farmer takes risk when he plants seed. He does not know what the weather will be, how late the frosts will come in the spring or how early in the fall, what insect pests may destroy his crop, what thieves may steal it, nor what other circumstances, fair or unfair, may occur. Nevertheless, if no one were willing to take such risks, we should never have any food. This kind of risk-taking cannot properly be called gambling. The manufacturer likewise, when he erects his building, fills it with expensive

machinery, and hires his help, does not know how soon a change of fashion may upset his calculations, how soon a strike may occur to stop his production, when financial panic or industrial depression may cause his prospective customers to stop buying, or when a change of government policy or some other fortuitous circumstance may send him into bankruptcy. If no one were willing to take such hazards, consumers would have no manufactured products, and labor would have no employment. Such risk-taking, again, could not be called gambling. It is absolutely necessary to the normal work of production. In short, a hazard of money or anything else of value, on a chance which is not necessary to production, is gambling; a hazard on work which is necessary is not gambling but legitimate risk-taking.

ORDINARY INDUSTRIAL RISKS ARE IRKSOME

Outside of mining and a few extrahazardous enterprises, industrial and commercial risks belong in the class where relatively large sums must be hazarded on the chance of small gains. Such risks do not appeal to the gambling instinct, and consequently they do not attract men except where the chances are good in the long run — that is, where the gains, on the whole, considerably exceed the losses. Those who embark on such enterprises will, in the long run, receive profits; but in such extrahazardous enterprises as appeal to the gambling instinct, by the chance of large gains from small investments, men are so overanxious to invest that the losses, on the whole, exceed the gains, and there are no profits for such men as a class, though of course a few win large prizes. It is in the former class of enterprises that the "irksomeness of risk" deters men from embarking, reduces competition, and improves the chances of those who have the foresight or the hardihood to enter.[1]

Relation of risk to abstinence. There is a close parallelism between the part played by risk in the determination of profits, by abstinence in the determination of interest, and by cost production in the determination of the price of a reproducible commodity. It was pointed out in Chapter XXXVI, on The Cost of Capital and its Price, that the necessity of waiting, combined with the fact that waiting beyond a certain point is disagreeable, tended to reduce the present price of a piece of capital to something less than the sum of its future earnings.

[1] T. N. Carver, The Distribution of Wealth, pp. 282–283. The Macmillan Company, New York.

The one who buys it at its present selling price and waits for its earnings to mature will normally and in the long run find himself in the possession of a surplus as the result of his waiting. Since men are generally disinclined to waiting, they never bid against one another for the possession of future goods vigorously enough to raise their present price to the level of the sum of their future earnings. The result of this is that the normal selling price of a piece of capital is low enough to allow its purchaser a surplus. In a similar way the risk connected with carrying on any enterprise, particularly a new enterprise in a changing society, may reduce the present value of the whole equipment somewhat below the probable value of its products even after allowance is made for interest. Because of the general disinclination to assume risks of the kind ordinarily met with in business, the competitive investments, that is, the competitive buying of productive goods and embarking on productive enterprises are less intense than they would otherwise be. It is for this reason that those who undertake such enterprises may be expected, in the long run, to secure a profit over and above the interest on the capital which is invested.

It was also pointed out in Chapter XXXVI that not all waiting is irksome, and that some waiting is done without any hope or expectation of surplus income. The parallelism between risk and waiting may be carried a step farther. Not all risk is irksome. Some risks are undertaken for the sake of the excitement. Boys sometimes like to skate over thin ice just because it is dangerous. Men sometimes like to gamble their money just because it is dangerous. All sorts of risks are taken for the sheer excitement of the hazard. When you find a business enterprise which appeals to the gambling instinct, men will be found so eager to buy or to invest in the risk as to give it a market value somewhat greater than its mathematical or economic value. Those who persist in buying such risks invariably lose in the long run, though they may now and then win on some individual venture.

Egotistic belief in luck. Adam Smith long ago pointed out that men are not only egotistical regarding their own abilities, but that generally they are rather fond believers in their own luck. Even though they are convinced that mathematically the chances are against them, their egotism leads them to believe that their own luck may offset the effect of mathematics. Of all superstitions the belief in luck is one of the most widespread. It is this sort of superstitious egotism on which the professional gambler and the lottery flourish.

Relation of the market to the mathematical value of a risk. In the case, however, of an enterprise which does not appeal to the gambling instinct, men are generally so reluctant to invest that the market value of the risk is usually somewhat less than its mathematical value. Men who persist in buying such risks inevitably gain if they continue long enough and if they are not ruined by their early losses. In the class of risks which appeal to the gambling instinct, the more one invests the more certain one is to lose. If one were to buy all the lottery tickets, one would be absolutely certain to lose, because the lottery sees to it that the price of all the tickets exceeds the value of all the prizes. In the other class of risks, namely, those which do not appeal to the gambling instinct, the market value is less than the mathematical value, as already stated. It follows from this that if you were to buy all such risks, you would be absolutely certain to gain, for the sum total of the market values is less than the sum total of all the mathematical or economic values. Those who invest in the gamblers' risk as a class lose rather than gain; those who invest in the ordinary business risks as a class gain rather than lose.

The question of the residual share. In view of all that has been said, it is safe to conclude that profits are made up of what is left after the other shares are paid. This does not mean, however, that profits are a residual share. This term *residual share* has been discussed in a good many treatises on economics. By a residual share is meant the only share

which is not determined independently. It has sometimes been argued, for example, that inasmuch as rent is determined by a law of rent which works independently of other laws of distribution, and since wages are determined by the standard of living which likewise is supposed to work independently of other laws of distribution, and since the rate of interest tends to work uniformly through the community, regardless of minor changes, profits are therefore undetermined by any law but are merely what is left over after the other shares are accounted for. It is quite as easy to show that any other share is a residual share in this sense as it is to show that profits are a residual share.

Many years ago Walker pointed out that profits are determined by a law similar to the law of rent as applied to land. Profits, according to this law, are determined by the difference between the productivity of a given business man and that of the least efficient business man who could manage to stay in business. The latter was called the no-profit business man or entrepreneur, and he occupied a position analogous to the no-rent land on the margin of cultivation. A more efficient business man, however, could reduce the cost of production somewhat lower than this no-profits man, or else produce a better product which would sell at a higher price. Herein lay his opportunity, and his only opportunity, for profits. Assuming that he paid the same rate of wages and interest and a rent which was proportional to the advantage of the site, his only chance of doing better than the other man was to organize these factors more effectively and to supervise them more diligently by effecting economies which the other man was unable to effect. He would then find himself in the possession of a surplus. Beginning with profits and accounting for them by this differential law, Walker proceeded to show that rent and interest were also determined by definite laws. This left only wages to be accounted for. Therefore he assumed that wages were a residual share.

One may, however, prove by the same process that either rent or interest is a residual share. It all depends on which share you consider last in the series. The result of this, moreover, has resolved the whole doctrine of a residual share into an absurdity. Since the independent business man, or the entrepreneur, is the only one whose income is not the result of specific bargaining, and since he is the only one who does not sell his services for a definite price, he may be said to receive whatever is left over. The laboring man bargains for a definite rate of wages; whether the business is making a profit or a loss, he gets these wages as long as the contract stands. The capitalist lends his capital at a definite rate of interest and gets that rate of interest so long as the business keeps going, whether it is making a profit or a loss. Similarly with the landowner. But the entrepreneur is the only one whose income hinges on the question of profit or loss for the business as a whole.

The business man the chief bargainer. Every participant in a competitive enterprise is more or less a bargainer, but the independent business man is the chief bargainer of all. When the laboring man has bargained for a rate of wages, the rest of his work consists not in bargaining but in working; and when the capitalist has bargained for a rate of interest, that is the end of his bargaining; so with the landlord. But the independent business man is the bargainer per se; he bargains for everything, — his raw materials, his help, his capital, his interest, — and he also bargains with the purchasers of the product. He is the unbought buyer of everything and the unsold seller of everything connected with the business. It therefore happens that skill in bargaining is one of the greatest elements in his success in securing profits. Bargaining, however, consists, in the first place, in investing, and the investment of capital is a very delicate operation. To invest successfully one must foresee the future needs of the community as expressed in the demands of the market. To err at this point is to fail.

Because of the disinclination of the average man toward taking the ordinary business risk, the competition is somewhat intense for the safe positions of the laborer and the lender of capital. The intensity of this competition tends to keep their shares somewhat lower than they would otherwise be, but this disinclination makes the competition somewhat less intense among the business men who have to assume the chief risks. This, in turn, leaves them with somewhat larger incomes than they would get if the risks were less irksome and the competition more intense. The surplus income which comes to them in this way is called profits.

PART FIVE

THE CONSUMPTION OF WEALTH

(Which has to do with the utilization of wealth in the satisfaction of human desires, and the reaction of this utilization upon the general prosperity and strength of the nation

CHAPTER XXXVIII

MEANING AND IMPORTANCE OF CONSUMPTION

Two meanings of the word *consumption*. There have been two meanings given by economists to the term *consumption of wealth*. By one group it has been made to include any utilization of wealth in which the wealth is worn out, used up, or destroyed in the process; by another group it is defined as meaning only such utilization as gives direct satisfaction to a consumer. Under the first definition coal is consumed when it is burned to make steam for the running of machinery as well as when it is burned to supply warmth for the comfort of the human body. Under the second definition only the latter use of coal would be called consumption. Those who hold to the first definition are compelled to divide consumption into two kinds, namely, productive consumption and unproductive consumption. It is always explained, however, that the term *unproductive consumption* does not mean useless or unnecessary consumption. It means that wealth thus consumed, in contradistinction to that which is productively consumed, is not used up in the process of producing other wealth. It is used rather for the final purpose for which all wealth is commonly supposed to be produced, namely, the direct satisfaction of human desires or needs.[1]

The tendency among recent writers is to use the term *consumption* in the narrower sense. By the consumption of wealth under this definition is meant the culmination of the whole economic process, namely, the satisfaction of human desires. Wealth which is worn out or used up in the process of

[1] Compare the author's article on "Consumption" in the Encyclopedia Americana.

production is not itself yielding satisfaction to consumers directly. It is yielding it indirectly, or helping to produce other things which will satisfy consumers directly.

The purpose of the user is the determining factor. Under modern conditions goods are used either for direct satisfaction or for the getting of an income. If they are being used for the getting of an income, they are not being consumed in the economic sense. The physician's automobile which is used in his profession is being worn out, but it is not being consumed in this sense. When the same automobile is used for his own enjoyment or that of his family, it is being consumed. Again, a thing may be in the process of consumption even though it is being used up very slowly. A diamond which is used as an article of pleasure or adornment is in the process of consumption, even though it may never be really worn out; but when it is a part of the stock of the jeweler, like the rest of his stock, it is being used for the purpose of getting an income. A substantial piece of furniture, when used for direct satisfaction, is being consumed; but while it is in a furniture store, the immediate purpose of the owner is to gain a profit from it rather than to enjoy it, and therefore it is not yet in the process of consumption. In short, the consumer of an article is the one whose desires it satisfies directly. The article begins being consumed whenever it begins satisfying a consumer's desires directly, that is, when it has passed through all the channels of business and trade, where it is used for the purpose of getting an income, and comes into the possession of someone for whose satisfaction it is designed.

Importance of consumption. Most textbook writers on economics have regarded the consumption of wealth as a department of the subject coördinate with such departments as production, exchange, and distribution. None of them, however, has given as much space to it as to those other departments. The reason has apparently been the general opinion that consumption is essentially an individual matter, with which the public

has had little or no concern. Laws relating to consumption have been called sumptuary laws, and have generally been condemned or only half-heartedly approved. There is a growing opinion, however, that consumption is quite as important, from its effect on national prosperity, power, and greatness, as any department of economics. Even the regulation of consumption, as in the case of laws regulating or prohibiting the use of alcoholic beverages, is becoming popular. Probably no movement of the present day in America is quite so popular or so democratic as the prohibition movement.

The importance of the consumption of wealth is further emphasized by the consideration that as many and as dire calamities have overtaken nations and peoples because of their irrational habits of consumption as because of inefficient systems of production, exchange, or distribution. In fact, consumption reacts powerfully upon all the other departments, particularly upon distribution. The standard of living of the laboring classes, which is a part of consumption, has much the same influence upon the price of their labor as that exercised by the cost of production upon the price of a material commodity. Again, the rate of the accumulation of capital, upon which so many things depend, is largely determined by the habits of consumption. The effect of luxury upon industry and general national strength is one of the largest of all questions. These illustrations are enough to show that the subject of consumption deserves the most careful study and the most serious treatment which economists can give it.

Ratio of consumption to production. In a profound and illuminating article on War and Economics,[1] Dr. E. V. Robinson calls attention to the fact that in any country, when its production exceeds its consumption, the result is economic progress, but that when consumption exceeds production, the result is economic retrogression. When production exceeds consumption, wealth is accumulating and taking on durable forms; when

[1] *Political Science Quarterly*, Vol. XV (December, 1900), p. 581.

consumption exceeds production, the national wealth shrinks, and the nation lives on its accumulated capital and, moreover, allows its accumulated fund of durable wealth to deteriorate. Since it spends no time in keeping its durable wealth in repair or its volume intact, but spends all of its time in producing ephemeral goods for immediate self-gratification, its great architectural monuments, if it has any, sink into decay; no time is spent in preserving them. Its buildings become dilapidated for the same reason. Its soil becomes depleted because no energy is spent in conserving its fertility. The people live as it were from hand to mouth, and everything tends downwards.

When production exceeds consumption, on the other hand, not only are durable forms of wealth conserved — kept in repair and intact — but they are continually improved and new forms produced. There is energy to spare from the work of producing ephemeral articles for immediate consumption. Here time is devoted to permanent works and new forms of construction. Durable goods multiply in quantity, capital accumulates, more and better tools and equipment are provided, and productive power accumulates by a kind of geometrical progression.

Whether, in the nation at large, production exceeds consumption or not depends on the general habits of the average person. If the average person demands large quantities of those things which supply physical and temporary satisfaction, such as luxurious food and drink, fashionable clothing, and expensive amusements, there will be a tendency for consumption to exceed production. If, however, the average citizen is satisfied with the kind of food which nourishes, and increases strength and efficiency, with clothing which affords comfort and convenience, with amusements which are inexpensive and which tend to preserve the health, strength, and agility of both mind and body, there will be a tendency for wealth to accumulate.

Other factors are, however, involved. There might be a population with simple habits such as we have indicated, but with no desire for the durable satisfactions of life and with

little energy to be devoted to production. Such a population would necessarily remain in a low state of civilization. It would not provide abundantly either for the temporary or for the permanent means of satisfaction, but would remain in sloth and squalor. But if, in addition to the simple habits of consumption so far as food, clothing, and amusements were concerned, the average person possessed an intense desire for durable goods, — for architecture, libraries, schools, and other civilizing agencies, — the conditions would be favorable to the accumulation of wealth and to all forms of economic progress. If, in addition to all these, the average person were energetic and not disinclined toward work, — if he were willing to study hard and work hard, and if his motives were such as to drive his mind and body at high speed, — the conditions would be still more favorable. This combination of favorable conditions would make progress almost inevitable. Nothing except a geological cataclysm or a world war would prevent such a people from advancing in the arts of civilization.

Preference for durable goods. It is to be borne in mind that the motives and desires of people are fundamental to this problem. Any people can have as much progress and as high a state of civilization as they desire, provided they desire them strongly enough and are willing to pay the price. If the people of ancient Athens had preferred to spend their time, their energy, and their money on ephemeral satisfactions rather than on the architectural adornment of their city, they could have done so. If they had so chosen, they could probably, for several centuries, have consumed somewhat more luxurious food and drink, worn more expensive clothing, and amused themselves in more costly ways. But because they chose rather to spend their money and their energy on durable goods, they left the world richer than they would have done if they had made the ignoble choice.

The same comment may be made upon the people of various medieval cities, who cared so much for their religion that

they were willing to spend their money, time, and energy in building cathedrals as monuments to their religious faith. They could have chosen otherwise. They could for centuries have had more luxurious food and drink, adorned their bodies with more expensive clothing, and had more of their time for self-amusement. But they did not choose in this way, and because they did not, the world still possesses their great architectural monuments. Similarly, any city of to-day can be as fine and beautiful as it wants to be, provided it is willing to pay the price. If it chooses not to build durable forms of satisfaction, it may go on consuming luxuries in many forms, and it may go on amusing itself, multiplying holidays, and enjoying various other forms of waste; but if it is willing to live on the products of a part of the people, in order that the remainder may be employed in building for the future, there need scarcely be any limit to its possibilities for civilization and culture. If it chooses to follow the example of those cities of the past that became great and left something to show that they once existed, — something to justify that existence, — it will merely be choosing to consume from day to day, and from generation to generation, less than it produces, in order that a part of the productive energy of each generation may build for the future. That spells progress. If it chooses otherwise, it will never leave anything to show to future generations that it once existed, much less to justify that existence. The life history of its citizens could be briefly summarized in these words: They were born to breed and die, like the insects of the hour, generation after generation, in endless and unprofitable repetition.

Value of a man. From the standpoint of progress the value of the individual depends on the excess of his production over his consumption. The following formula will determine with mathematical accuracy how much a person is worth from the standpoint of national prosperity: $V = P - C$.

In this formula V stands for value, that is, the value of the man; P stands for his production; C, for his consumption.

Thus the formula reads, The value of the man equals his production minus his consumption. In the cases where his consumption exceeds his production his value is negative; he is a drag on progress, and the world will at least save his victuals when he leaves it.

The whole life is the unit. Lest this be too hastily interpreted, it should be pointed out that a human life as a whole, and not a fragment of it, should be regarded as a unit. The consumption of a child exceeds his production; but this does not condemn him. So, likewise, during the declining years of those who reach a good old age, consumption may exceed production; but this does not condemn the life. If the life as a whole produces more than it consumes, it leaves the world richer by that difference.

Again, production should be given a very wide interpretation. One may produce without handling material goods of any kind, but by inspiring the productive virtues in others, by teaching productive skill to other people, by scientific investigation, by transmitting knowledge, and in various other ways. If, after making all allowance for these different forms of productivity, the mature individual in sound health finds that he is producing less than he is consuming, it is time for him to begin to consider his ways and to experience a change of heart. He needs to be converted from a waster into a producer.

Boarders at the national table. Dairymen sometimes use the term *boarder* to describe a cow whose feed and care cost more than her milk is worth. Every wise dairyman tries to get rid of his boarders and keep only those cows whose production exceeds their consumption. The formula $V=P-C$ applies very clearly to the value of the cow. A wise farmer would not keep a horse whose production did not exceed his consumption. A manufacturer would discard a machine which required so much power, care, oil, repairs, etc. as to exceed the value of its product. It would seem that men ought to be held to at least as high a standard as that to which cows,

horses, and machines are held. A man who falls below that standard is as much of a drain upon his country as is the cow, horse, or machine.

The class of boarders includes not simply the tramps and beggars but everyone else who is not usefully engaged, even though he or she lives upon his wife's or her husband's earnings, his wife's or her husband's fortune, or upon inherited wealth. The class includes even others. Even those who are somewhat usefully engaged may be consuming such expensive products, and may require so many servants to wait upon them, as to use up more man power than they replace by their own work. As a mere exercise in patriotism, therefore, every mature person should ask himself seriously whether the country is the gainer or the loser by reason of his existence, whether the cost of keeping him is greater than the advantage, whether the man power required to produce for him and take care of him is not greater than the man power which he contributes to the nation's fund of productive energy by his own work.

The conservation of man power. The importance of this consideration is peculiarly clear in a time of great national crisis, such as the great European War of 1914–1918, when all the liberal nations were at death grips with a military autocracy whose limitless ambition threatened to overwhelm the democratic world. The necessity of conserving every ounce of man power was upon every nation. We saw clearly then that anyone who was not usefully engaged was a menace rather than a help to us in our struggle. The food alone which such a person consumed was acutely needed, to say nothing of the man power which he required in other ways.

Even those who were usefully engaged should have felt that luxurious consumption on their part was an interference with the plans and purposes of their country. To consume unnecessary luxuries is to require an unnecessary quantity of man power to produce for us. This was little short of a crime when that man power was so intensely needed to win the war.

CHAPTER XXXIX

RATIONAL CONSUMPTION

Difference between a high and a rational standard of living. Economists have generally classified standards of living on the basis of their cost or expense. A high standard of living has meant merely an expensive standard; a low standard of living has meant simply a cheap standard. Very little attention has been given to the difference between a rational and an irrational standard. By a rational standard of living is meant one which increases the margin between one's production and one's consumption. In the formula $V = P - C$, as given in the preceding chapter, the most valuable man is one in whom P exceeds C by the greatest margin. The purpose of the present chapter is to contend that the most rational standard of living is one which produces the most valuable man.

This margin of difference between P and C would be increased, of course, either by decreasing C, by increasing P, or by doing both at the same time; that is, if, without reducing in any degree a man's efficiency as a producer, he were to reduce his cost of living, he would thereby be adding to his value from the standpoint of progress. To that extent he would enable the community to produce more than it consumed. He would thus be a factor in the accumulation of productive power or of the durable products of civilization. If, however, by reducing his cost of living, he at the same time reduced his productive efficiency in the same proportion, there would, of course, be no gain, and there might be some loss involved. If, on the other hand, by spending more on himself, especially on books and other means of education, on tools, or on more nourishing food, he were able to increase

his productive efficiency, his increase in consumption would more than justify itself.

From this point of view the problem for every individual is to adopt that standard of consumption which will leave the largest margin between production and consumption. From the same point of view it would frequently be necessary that one man should spend more on himself than another would be justified in doing. Take, for example, a great surgeon, whose time is exceedingly valuable, not only to himself but to the community he serves. He might very properly keep an automobile, a chauffeur, and other time-saving devices and agencies. He might even keep a valet to look after his clothes. If these forms of expenditure would enable him to give more people the benefit of his skill, it would be to their advantage for him to spend money in these ways. This applies to all others whose time and services are valuable to the community. For the same reason he might, by increasing his consumption in various ways, increase his production more than enough to pay the added cost of his living. But an inexperienced surgeon, whose time is not valuable to the community, — who, in fact, has time to spare, — could not properly indulge in the same time-saving devices. For such a person to employ a valet or even a chauffeur would be ridiculous waste and ostentation.

Buying trinkets is not good for business. In opposition to this point of view there is a popular theory to the effect that lavish expenditure is somehow good for business. The difficulty with this argument is that it always assumes that if the individual is not consuming lavishly, he is not spending but hoarding his money. It is surely as good for business and labor that one should spend money on builders and architects as on milliners and confectioners. He who consumes lavishly spends his money on confectioners, milliners, and other producers of immediate and temporary satisfactions. He who consumes rationally spends as much money as he who consumes lavishly, but spends it on things which build and improve,

rather than on things which merely afford temporary gratification. A community of lavish consumers would, of course, give actual employment to those whose work is to amuse and gratify, but little employment to builders and others producing for future generations. A community of rational consumers, on the other hand, would give more employment to those who build for future generations, and less to those whose work is to gratify the interests of the immediate present. There is no essential difference in the amount of money spent in the two cases, provided the two have equal quantities of money to spend. The difference is in the way they spend it and in the direction they give to enterprises and industry. The community that spends money in building for future generations will improve from generation to generation; each generation will inherit from the preceding one a larger fund of durable wealth, and will add to this and bequeath a still larger fund to successive generations.

Buying durable goods is investing for the future. If we were to start these two communities side by side, with equal numbers and equal natural resources but with different habits of consumption, it would not be many generations before a marked difference could be seen between the two communities. The community which spent its income for immediate gratification would fall behind the one which spent a part in building for the future. It would not be many generations before the latter community would outstrip the former, and the people from the former would be emigrating to find employment and other advantages in the latter.

The miser and the spendthrift. Instead of placing the miser and the spendthrift in opposite categories, we should really put them together. The miser is a lavish consumer in a most important sense. A consumer is defined as one who uses wealth for his immediate gratification. In a previous chapter consumers' goods were defined as goods used for direct and immediate satisfaction. Now a miser, instead of using his wealth

productively, keeps it for his direct and personal enjoyment. With extreme gratification he counts his hoard. He loves to handle it, to see it glitter, and to hear it jingle. He is in the strictest sense a consumer of gold. He is very much like the spendthrift in that he gives up everything in order to get gold and to enjoy it personally, just as the ordinary spendthrift gives up everything for personal enjoyment of other kinds. If, instead of hoarding his gold in his cellar, our traditional miser were to use it in gilding his house, no one would doubt that he was a spendthrift. Whether he hoards his gold in his cellar or uses it for purposes of adornment makes very little difference. The same amount of gold is withdrawn from circulation, and much the same effect on the market is produced in either case.

Both the miser and the spendthrift should be contrasted with the rational buyer, or the investor in durable goods. The true investor buys goods of which he himself will probably never be able to absorb the full utility. He buys goods that will last so long that future generations will get a part of their utility. Those future generations will therefore have a better start than he did. If this is kept up indefinitely, generation after generation, by all members of the community, it will be a very prosperous and progressive community; but if each individual of each generation merely says, "What has posterity ever done for me that I should be called upon to do anything for posterity? Let us eat, drink, and be merry!" that will always be a backward community.

The case of rival communities. It was suggested above that if two communities started side by side with equal natural advantages but with different habits of spending, we might get a test of the comparative merits of those habits. This may be used likewise as a means of testing, in imagination at any rate, the rational quality of a standard of living. That standard of living which would enable a community or nation to make the most rapid and permanent progress would have to be commended. Something depends, however, on our definition of

progress. There may be about as many ideals of progress as there are people who have ideals. Without attempting a full and complete definition, it would seem fairly safe to suggest that among other things progress should include general improvement in comfort, well-being, and satisfaction.

The whole life of the nation as well as of the individual to be considered. Whether this form of progress is worth what it costs or not is another question. The individual spendthrift doubtless thinks that his immediate satisfaction is more important than his future well-being or that of his descendants. He therefore endangers his future well-being for the sake of satisfaction in the present. To him progress is not worth the price. The price is present abstinence. He would probably not deny that saving and economy would make for progress, that is, would make him better off in the future. He would merely say that he did not care for progress so much as for present gratification. So with a spendthrift nation; it might agree that accumulation of wealth and improvements in comfort and well-being would be characteristic of progress and that thrift and economy would contribute to that end, but it might decide that it did not care so much for progress as for present gratification. A nation feeling this way gets what it prefers. The future, however, probably belongs to those individuals and those nations which possess more of the time sense, — to those who are able to think of the whole of life as a unit rather than of every moment as sufficient unto itself.

Leaving out of the discussion for the present the question as to whether prosperity is worth while or not, but assuming that it is worth while, the test which we have suggested would be a good one. What standard of living, if adopted and followed persistently, generation after generation, would increase the comfort and well-being of the community and develop the power to support increasing numbers of people and support them better, to add to the productive power of each generation, and ultimately to raise the economic, social, political, and even

military strength of the nation to the maximum? Granting that there are other factors in the problem, we still have the right to insist that the standard of living is one important factor. The standard of living which contributes most to progress as we have defined it is therefore to be commended. That standard of living will contribute most in which the net contribution of the average person is the highest; that is, where his production exceeds his consumption by the widest margin.

Let us return to the formula $V = P - C$. That is the best standard of living which enlarges the value of the average person to the maximum.

It must begin to appear that rational consumption is as important a factor in national prosperity as efficient production. The relation between consumption and production is even closer than we have yet shown it to be. In a most important sense useless consumption is a waste of labor, or of productive power. It requires labor, or productive power, to produce everything which we consume. If our consumption is such as to enable us to give back an equal amount of productive power, there is no waste; but if we consume in excess of that which is necessary to maintain our working capacity at its maximum efficiency, the labor which produced the things which we consume in excess is wasted as truly as though it were badly directed or were working with crude and unsuitable tools.

Liberal ideas as to what is necessary. It is well, however, to be rather liberal in our ideas as to what is necessary in order to maintain a man's working capacity at its maximum. Considerable recreation and relaxation are always recognized as necessary. The anticipated enjoyment, not only of games and other forms of recreation but of objects of comfort and delight, is a spur to energy. It is not only a spur to energy; it is also a means of creating and preserving a joyful frame of mind, without which sustained effort is impossible, and without which it is frequently asserted that no really fine work of any kind is ever done.

Joy in work. Looking forward to a holiday or a vacation has sustained many a laborer through weeks and months of study and toil. The desire to possess a bicycle or an automobile has galvanized many an otherwise indolent boy into strenuous productivity. The pleasure of giving useless presents to their children at Christmas time has lightened the toil of many a father and mother through many a hard winter. In our attempts to define a rational standard of living we must not overlook a multitude of things which people want and want intensely without being able to give any good reason why they want them. Women can no more give a reason why they like babies and finery than a fox terrier can give a reason why he likes to chase cats. There is no more certain way of spoiling a boy than by compelling him to give a reason for everything which he wants and refusing to allow him to have it unless his reason is satisfactory to older people. It would be equally unwise to try the same plan with grown-ups. We must be rather careful, therefore, in defining a rational standard of living, not to eliminate many things which no one is able to give a very good reason for desiring, but which, nevertheless, are desired with an intensity which cannot always be expressed.

Tools as consumers' goods. The world has undoubtedly lost much, in productive efficiency as well as in the joy of living, through its failure to appreciate the possibilities in the direction of turning tools and other producers' goods into consumers' goods. That one must have good tools to do good work has long been recognized, but we have scarcely begun to realize the full meaning of the term *good tools*. It is not only necessary that they be capable of doing their purely mechanical work; it is also essential that they please the mind of the worker. They must be pleasing to look upon as well as agreeable to the hand.

The purpose of a tool is to bridge the gap between the worker and the object upon which he is working, — to enable him to transfer to the object the idea or plan which he has in

mind. It must therefore fit the mind of the worker as well as his hand and his arm.

The importance of having tools which help to keep the worker in an agreeable frame of mind is not so much in the fact that he can do more or better work in a given minute or a given hour, though there is something in that. The chief importance lies in the fact that he can keep at it for more minutes, more hours, more days, and more years. Some rare geniuses are able to work regularly and all the time, "taking infinite pains" and apparently never tiring. Most of us, however, are desultory creatures who have to coax ourselves to work steadily. It is easier to coax ourselves to work properly if our tools are such as we delight to handle and our workshop is a place where we delight to be.

Coaxing ourselves to work. The writer remembers a venerable farmer who seemed to be the very embodiment of the spirit of work. The habits of a lifetime had got into his very bone and muscle. Work seemed to be his chief pleasure and idleness his chief pain. Yet he confided to the writer that he feared that he lacked the moral character which was necessary to set a gatepost properly. He knew that it ought to be set four feet deep, — that if it were set less deep than that, the gate would sooner or later begin to sag and give trouble. Yet, when he was actually digging the hole, he found his courage and his determination gradually weakening. When it was three feet deep it "looked deep enough," and unless he rallied all his moral force he would stop somewhat short of the necessary four feet. As another means of supporting his character and encouraging himself to do what he knew he ought to do, he never undertook to dig a post hole unless he had all his tools in the best possible shape. It was harder to persevere with poor tools than with good tools. A new tool in which one takes some pride is a great help in such times of moral strain.

Aside from their effect upon the quantity and quality of the work which a person can do, handsome tools contribute their

share to the sheer joy of living. Those people who are not obliged to work have the same need as others for pleasing effects. Not having any use for tools or other objects of utility, they take to collecting useless objects, somewhat after the fashion of the bower bird. That bird, it will be remembered, gathers bits of glass, colored string, broken china, bright pebbles, and spreads them before her nest, for no purpose, apparently, except the pleasure of looking at them. Now tools may be just as beautiful as the greater number of those useless objects which people of leisure and bower birds collect for their own delectation. Those who work spend a large portion of their time with their tools and in their shops, more than they are likely to spend anywhere else except in their own homes. Next to the adornment of their homes, the adornment and beautification of their working places must furnish them the pleasure of living.

Pride in work. The spirit which regards work as a more or less repulsive necessity — which tries to cover up in many ways the evidences of work — is probably responsible for a large part of the neglect which we have shown to our working places. Naturally enough a person who regards work merely as a disagreeable necessity — something to be ashamed of and avoided on every possible pretext — is not likely to spend very much money on the polishing or adornment of his tools or the beautification of his working place.

No rural neighborhood, for example, is quite so desolate as those from which people retire as soon as they have accumulated enough to enable them to live in town. Farmers who retire as soon as they possibly can afford to do so are not likely to spend much money in adorning their farmhouses or in making the neighborhood attractive. It is only where you find farmers who are glad that they are farmers, — who expect to remain farmers and whose children look forward to the same career, — that you find the farms, the homes, and the community adorned and embellished with the evidences of civilization.

No town or section of a town is generally quite so unattractive as the place where the people work. It has not occurred to many of the owners of these working places that the people really live there a good portion of their lives, and that if they cannot get a part of their joy of living there, they will miss a good deal of it. No doubt this is partly due to the fact that the owners themselves live elsewhere. In this respect a factory district resembles a farming district whose land is owned by absentee landlords. The surplus which the land affords is all spent somewhere else, — where the owner lives, — in adorning and embellishing his home; there is none left to adorn and embellish the countryside. Similarly, the surplus which the factory yields is spent somewhere else, usually as far from the factory as the owner and his family can get.

If it were not for the fact, referred to above, that we have inherited certain aristocratic traditions (or else that we try to ape those who have) and are rather anxious to get away from the sources of our incomes, we might find it possible, in some cases at least, to live near our places of business. If we all did so, we should spend our money there and should also, if we could afford it, beautify those surroundings as we now beautify the suburban districts where we live.

It is astonishing how much of the fashion of the world is due to the desire to avoid the appearance of having to work, or even to advertise the fact that one does not have to work. In old times certain Chinese magnates used to allow the finger-nails to grow to extraordinary lengths as a visible sign that they did not have to work. The binding of the feet of the girls is said to have had the same origin. The train, which only lately was a fashionable necessity for every lady in Christendom, answered much the same purpose.

Seeing that we have been so anxious either to avoid work or at least to avoid the appearance of having to work, it is not strange that we have done very little to make our work agreeable. The opposite tendency shows itself once in a while,

however, as in the case of those New England shoemakers of an earlier day who coöperated to hire readers to read to them while they plied their trade. Such people cannot be kept down. They built up a great shoemaking industry in New England. One finds good workmen who delight in nice tools, — tools with which it is a pleasure to work, — and who, if they have an opportunity, adorn their shops with flowers. A good farmer usually likes to work with a handsome team, well groomed and harnessed. The team is to him both a consumers' good and a producers' good. There is not much doubt that such a farmer works more cheerfully and more steadily, and that he finds life more enjoyable, than he would if he tried to get along with an ill-matched, unattractive team. It is reasonable to suppose that we should all do better and more persistent work, and get more enjoyment out of life, if we took some pains to make the conditions of our work attractive. If this is so, it is a matter of great economic importance and one which will contribute to the prosperity, strength, and greatness of the nation, and even more to the enjoyment of the people. Expenditure for such things would form a part of a rational system of consumption. But it is important that all such enjoyable consumption should be regarded in its true relation to the problems of the national life upon which our individual lives depend in the long run. To forget their relation to the joy of work and to think of them as ends in themselves, unrelated to the larger problems of life, is to diminish our own value to the nation and, to that extent at least, endanger the position of our posterity.

CHAPTER XL

LUXURY

Different classes of consumers' goods. Consumers' goods have been divided into four classes, according to the kind of desires which they are designed to satisfy. They are necessaries, comforts, decencies, and luxuries. This, however, is at best only a rough classification. It may seem fairly easy to distinguish between necessaries and comforts, and there are doubtless many cases where goods are easily classified; but there are also many line cases where it is difficult to determine whether the good in question is a necessary or a comfort, or even a decency. Another difficulty which tends to obscure the distinction is found in the fact that no one, however poor, confines himself to necessaries. Part of his expenditure will go for comforts, part for decencies, and part even for luxuries. Again, no one, however rich, can avoid the buying of necessaries and comforts.

Necessaries. In a general way we may define necessaries as all goods which are required for the maintenance of physical health and strength, not only of the mature man but also of his family and even of his young children. In discussing what used to be called the iron law of wages, it was said that the natural wages of labor are made up of those things which are necessary in order that the laborer may maintain his health and strength and reproduce his kind, so as to maintain the supply of labor without increase or diminution. Aside from the unwarranted use of the word *natural* as applied to this rate of wages, it would be impossible to say that such wages would consist entirely of necessaries. It is quite possible that the laborers might demand luxuries and forego the gratification of

their domestic instinct unless they could get them. In that case wages would have to be high enough to provide the laborers with these luxuries; otherwise they would not marry and reproduce their kind with sufficient rapidity to keep the supply of labor intact. It would, in that state of society, be necessary to pay such wages as these; but it could hardly be said that everything which these well-to-do laborers consumed could be classified as necessaries of life. In short, wages which will enable the laborer to enjoy comforts, decencies, and luxuries, as well as necessaries, may have to be paid in order to keep up the supply of labor.

Comforts. Of these three classes of goods, comforts are the most difficult to define. While not absolutely necessary for the maintenance of health and strength, still they can hardly be dispensed with in any society where life is really worth living. A young and vigorous person might, by running to and from his work in cold weather, dispense with an overcoat. From his point of view an overcoat could hardly be called a necessary, and yet it would be a great comfort. Cushions or upholstered furniture, spring mattresses, etc. can hardly be called absolute necessaries, and yet they would be considered almost indispensable by the average family.

Decencies. The dividing line between comforts and decencies is likewise obscure. By decencies we mean those articles of consumption which the habits or customs of one's neighborhood or one's class prescribe, and without which the individual or the family would feel that it could scarcely maintain its position of respectability. In a community where military traditions are strong and society tends to be stratified, a military officer could almost lose caste if he condescended to ride on a street car. In such a community a private carriage would seem almost to be a necessary, though according to our definition we should call it a decency. Anything which an individual member of any class, occupation, or profession would feel ashamed to be without would come under our definition.

Adam Smith[1] included both decencies and comforts under necessaries and gives a very clear description of the difference, as it appeared to him in his day, between necessaries and luxuries.

By necessaries I understand, not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without. A linen shirt, for example, is, strictly speaking, not a necessary of life. The Greeks and Romans lived, I suppose, very comfortably, though they had no linen. But in the present times, through the greater part of Europe, a creditable day-labourer would be ashamed to appear in public without a linen shirt, the want of which would be supposed to denote that disgraceful degree of poverty which, it is presumed, nobody can well fall into without extreme bad conduct. Custom, in the same manner, has rendered leather shoes a necessary of life in England. The poorest creditable person of either sex would be ashamed to appear in public without them. In Scotland, custom has rendered them a necessary of life to the lowest order of men, but not to the same order of women, who may, without any discredit, walk about bare-footed. Under necessaries, therefore, I comprehend, not only those things which nature, but those things which the established rules of decency have rendered necessary to the lowest rank of people. All other things I call luxuries, without meaning by this appellation to throw the smallest degree of reproach upon the temperate use of them. Beer and ale, for example, in Great Britain, and wine, even in the wine countries, I call luxuries. A man of any rank may, without any reproach, abstain totally from tasting such liquors. Nature does not render them necessary for the support of life; and custom nowhere renders it indecent to live without them.

Marshall[2] divides consumers' goods into necessaries, comforts, and luxuries, making no special class to be called decencies.

This brings us to consider the term *necessaries*. It is common to divide wealth into necessaries, comforts, and luxuries; the first class including all things required to meet wants which *must* be satisfied, while the latter consist of things that meet wants of a less urgent character. But here again there is a troublesome ambiguity. When we say that a want *must* be satisfied, what are the consequences which we have in view if it is not satisfied?

[1] The Wealth of Nations, pp. 466–467. The Clarendon Press, Oxford, 1880.

[2] Alfred Marshall, Principles of Economics, pp. 67–69. Macmillan and Co., London, 5th ed., 1907.

Do they include death? Or do they extend only to the loss of strength and vigour? In other words, are necessaries the things which are necessary for life or those which are necessary for efficiency? . . .

It may be true that the wages of any industrial class might have sufficed to maintain a higher efficiency, if they had been spent with perfect wisdom. But every estimate of necessaries must be relative to a given place and time; and unless there be a special interpretation clause to the contrary, it may be assumed that the wages will be spent with just that amount of wisdom, forethought, and unselfishness which prevails in fact among the industrial class under discussion. With this understanding we may say that the income of any class in the ranks of industry is below its *necessary* level, when any increase in their income would in the course of time produce a more than proportionate increase in their efficiency. Consumption may be economized by a change of habits, but any stinting of necessaries is wasteful.

Luxuries. Where comforts or even luxuries have entered into the laborer's standard of living, it would undoubtedly be true, as Marshall suggests, that any forcible reduction of wages would result in less efficiency on the part of the laborers. From the standpoint of either the lawmaker or the employer, therefore, all those things which the customs of the time and country give to the laborer must be considered as necessaries. To cut down a portion of the laborer's wages would not result in the mere cutting out of a few luxuries from his consumption. He would be quite as likely to cut down his consumption of physical necessaries as of those things which, from an absolute point of view, could be called decencies or luxuries. It is a well-known fact that high-spirited people, with social standards and traditions to maintain, will, if they find themselves in reduced circumstances, deprive themselves of absolute physical necessaries of life in order to keep up appearances. This, of course, is certain to reduce their efficiency.

While this is a final consideration so far as the employer or the lawmaker is concerned, it does not alter the fact that if these people could be appealed to on moral or other grounds to rationalize their habits of consumption, they would be much better off. If they would reduce their consumption of luxuries

and increase their consumption of the necessaries of life, not only their working efficiency but their general economic well-being would be improved. "Wherefore will ye spend your money for that which is not bread"? demanded the prophet. He was making his appeal, however, directly to the individual and not proposing any control of consumption by law.

Luxuries have very much the same meaning to-day as that which Adam Smith gave to them. They are articles of consumption which are not demanded either by the physical health and strength of the people or by the rules of society, but are wholly matters of individual indulgence. The dividing line, however, between decencies and luxuries is still very obscure. If a person belongs to a small group of spendthrifts, it may be claimed that the rules of his social group compel him to spend money lavishly on things which others would regard as pure luxuries. He may therefore claim that these are only decencies, because they are prescribed by the rules of his group or class. Instead of accepting the verdict of any special class or set, it would seem better to confine our idea of decencies to those things which are prescribed by the almost universal consensus of opinion of the time and place. Thus, in America, for example, it would be almost universally thought to be indecent for men and women to appear in public places, even in warm weather, without shoes, though there are certain isolated communities where this rule would not prevail. Before the advent of the waist shirt it was generally regarded as improper for a man to appear at any public place, especially indoors, without a coat. That every woman shall possess certain articles of finery is a rule even among the poorest of people. It will be better, therefore, if we restrict the definition of decencies to those things which society in general, rather than some special clique or coterie, prescribes as necessary.

Stimulating effect of luxury. Economists have been somewhat divided on the question as to whether a luxury is always

to be condemned or not. McCulloch[1] states that any gratification, however trivial, is necessary if an individual is stimulated to work in order to attain it. John Stuart Mill[2] says, "To civilize a savage, he must be inspired with new wants and desires, even if not of a very elevated kind, provided that their gratification can be a motive to steady and regular bodily and mental exertion." It is a well-known fact that in certain low states of civilization the laborer or the peon is content with so few articles of consumption that he will not work efficiently or steadily. If, by working three days in a week, he can earn wages enough to support him, in the style to which he is accustomed, for seven days, he will work only three days in the week. It has been generally recognized that the only cure for this difficulty is to raise his standard of living and increase his wants, so that he will have a motive for regular and steady work. Many interesting stories are told of the devices by means of which the laborer is induced to work or by which his wife is induced to demand more wages of him in order that she may provide herself with finery.

We need not go to backward countries, however, to find examples which illustrate precisely the same principle. There are men among us who reduce the number of working hours per day for much the same reason. Finding that they can earn enough in four hours to support them for twenty-four, they choose to work only four hours a day; that is, they go to their offices at about ten o'clock in the morning and stay until about two, and spend the rest of the day at the club or the golf course. There are still others who find that they can earn enough in twenty years to support them for the whole of their lives. They therefore retire from business long before their physical and mental capacity has begun to decline, and spend the rest of their time in pleasant pursuits.

[1] J. R. McCulloch, The Principles of Political Economy. Edinburgh, 1825.
[2] Principles of Political Economy, Bk. I, Chapter VII, § 3.

Economically speaking, however, all these men, from the peon up, are merely choosing between different kinds of luxury. To the peon, leisure, sport, amusement, and even rest are luxuries in which he delights. If his desire for this sort of luxury is stronger than his desire for other kinds, he will choose this kind. The same is true of the man who cuts down his working day or his working years. To him, leisure, sport, and rest are luxuries. If he cares more for these than for such additional luxuries of other kinds as he could secure by working longer, he will of course choose these.

Material and immaterial luxuries. It is true that by choosing material luxuries rather than the immaterial satisfaction of leisure and rest the quantity of material goods which are produced and put on the market is increased. The statistics of wealth are expanded. The census taker and the tax assessor find more tangible articles of wealth in such a community than they would find in the community which preferred to take its luxuries in the form of leisure. Doubtless all of us who are members of a strenuous race, to whom leisure does not seem so very desirable, and also of a race which might be malignly characterized as a greedy or a gluttonous race, having powerful desires for material luxuries, think that we have made much the better choice. We are therefore much inclined to despise the race which chooses otherwise. There is such a thing as a pot calling a kettle black.

A storehouse of labor. There is another argument, however, which goes back at least as far as David Hume, to the effect that luxuries must be regarded as a storehouse of labor which in the exigencies of the state may be turned to the public service. This may mean merely that a community which is expending a large proportion of its energy in the production of luxuries may, in times of great crisis, turn that surplus energy into the work of meeting the crisis. In time of war, for instance, the consumption of luxuries may be cut down, and the productive energy, which had been used in the production of

luxuries, may now be used in the prosecution of the war or in the manufacture of munitions and war equipment. This is undoubtedly a sound argument so far as it goes.

In order to put several million men of working age into the army and navy, and more millions into the munition factories and navy yards, and others into the mines to produce the raw materials, and still others onto the farms in order to increase the food production, it is absolutely certain that labor must be withdrawn from some other industries. It is fairly obvious that there are only two sources from which they can be drawn. They who are not working may be put to work, and those who are doing unnecessary kinds of work may be put into the necessary industries. There is no other possibility. The nation must therefore look about and see what can be done in these two directions.

Most of our men of working age are now at work doing something which is necessary, convenient, or pleasing. A good many women are virtually idle, though they all probably manage to keep busy at something or other. Some of them may work in munition factories or take places in the ordinary factories, shops, and stores, displacing men and women already employed. Those who are displaced may then enlist or go into munition factories. A much better opportunity is offered in their own homes. Every woman who keeps one or more servants, and who is able to do anything either inside or outside the home, may do her own housework and discharge her servants. They will then be available for the industries whose expansion is made necessary by the war. Those who are situated where they can have a sizable garden may work advantageously at gardening, but they should take it seriously and not waste their time on a few struggling garden plants. They should do an appreciable fraction of what is known as a man's work.

Reducing consumption in times of national crisis. A much greater opportunity lies in the closing or cutting down of all

unnecessary industries and occupations. If every luxury-producing industry were closed down, a vast quantity of labor would be released. It would then be available either for military purposes or for the production of the necessaries of life. Our golf courses, baseball fields, and tennis courts could be transformed into farms and gardens. This would add a good many acres to the productive land, and, what is vastly more important, the players as well as the spectators could be used in productive work. These suggestions are enough to indicate that considerable changes in the daily habits of the people may be necessary if a great national crisis is to be met.

These changes in habits may profitably go much farther. The people may economize greatly in their consumption. It is amusing to hear some people talk about the waste in American life. You would think that the great American garbage pail was a veritable gold mine if it could only be profitably worked. Doubtless there is some waste there, and it will bear looking into; but if we would consume more food and fewer condiments, relishes, and delicacies, whose real function is to make the food palatable, we should reduce the cost of food about one half. Starch, in the form of grain, potatoes, or coarse vegetables, is our principal food. To this must be added a very moderate amount of protein, fats, and sugar. These, however, may also be made to serve the purpose of making the basic starchy food more palatable. Fruits and the finer vegetables and salads should be made to serve mainly as relishes. Instead, many of us make our meals principally of things which should serve as condiments, relishes, and delicacies, using starchy food only as a means of diluting them. It is this habit, rather than our garbage pails, with which the French people, who are so much wiser in matters of food than we are, find most fault. As to clothing, if the people patch and darn it and make it last longer, the textile and clothing trades will then have time to produce army supplies. Without such changes of habits as these, let it be remembered, it will be impossible to recruit

an army and navy and at the same time increase the production of supplies for the army and navy as well as of all the basic necessaries of life.

There are, however, two ways in which these changes may be forced upon the people, whether they will or no. If they insist on consuming wastefully and spending their money for things which are not necessary, while men are being at the same time taken out of productive industry, this unbalancing of supply and demand will send prices so high that most of the people, particularly the poor people, will not be able to buy anything but the barest necessaries. The well-to-do owe it as a duty, therefore, to reduce their consumption and thereby reduce the demand upon the undermanned industries. Again, if the government is wise enough, it will put such high taxes upon all incomes as to compel the people to reduce their consumption and their purchases. In this case, instead of buying supplies and hiring men with their money, the people will turn it over to the government, which will then buy supplies and hire men with it. If the taxes are high enough, women will be compelled to do their own housework and discharge their servants, men will be compelled to close their golf courses and stop going to ball games, and everybody will be compelled to buy cheaper and more nutritious food and to wear their old clothes longer. But they ought to do all these things and a multitude of others anyway, in a time when the strength of the nation is being put to the test and its very life is at stake.

The slogan "business as usual" in time of a great war is the result of crass ignorance of some of the basic facts of economic life. It is sometimes asserted in support of that slogan that the only reason why the people are well-to-do is that they have been spending their money for the products of industry. Therefore, if the people quit spending their money, production will be cut off and prosperity destroyed. But a little intelligent analysis will show that it is not proposed to spend any less money in time of war, or to hire any less labor, than in time

of peace. The obvious thing is that the energy of the people must be completely redirected. The great purpose of most people in time of peace is to gratify their desires. In time of war the great purpose must be to win the war. The energies which have been devoted to the work of producing objects of gratification must now be turned to the work of beating the enemy. If everyone insisted on having as many objects of desire and gratification in time of war as in time of peace, it would take just as many men to produce these objects of desire and gratification, and there would be none to spare for defending the country. Instead of spending their money directly for their own private purposes, the obvious duty of the people is to turn over as much of it as they can possibly spare, and let the government spend it in purchasing war supplies and in paying men to do the few things which are supremely needful for the national defense.

Rapid recovery after a local disaster. Even in cases of great local disaster, such as a great fire or earthquake, it has been remarked many times that recovery comes with amazing rapidity. In spite of the fact that vast quantities of wealth are destroyed, the city soon recovers and becomes apparently as prosperous as ever. Luxury is supposed by some to have an important bearing on this question. The energy which, before the disaster, was spent in producing luxuries is now available to be spent in rebuilding what was destroyed. In order to do this, however, the people must, for a time at any rate, reduce their consumption of luxuries. The individual whose property has been destroyed is to that extent poorer than he was before. He may borrow capital with which to rebuild, but until the debt is paid off, his effective income is considerably reduced. He therefore has less money to spend on articles of luxury; he is virtually spending that money on a new building.

The objection may be raised that the luxury which takes the form of leisure would also furnish a fund of energy for the meeting of a great national crisis or repairing a local

disaster. Men who have remained idle, enjoying leisure, may now go to work to carry on the war or to rebuild the city which has been partially destroyed. This objection is somewhat weak, however, because, in the first place, habits of sloth and idleness are much more difficult to overcome than habits of lavish consumption. The sheer inertia of the people makes it almost impossible to rouse them to extra exertions in time of crisis, whereas the people who have been exerting themselves strenuously in the production of articles of luxury may, with less difficulty, redirect their strenuous energy. In a sense the productive machinery of the community is already going. It can be kept going and its direction changed more easily than it can be started up.

In the second place, when a community takes its luxury in the form of idleness, it is certain to be ill equipped with the machinery of production as well as with the technical knowledge and skill which are necessary to efficient production. If they lack machinery and technical knowledge and skill, they will not be able to carry on a modern war successfully or to repair a local disaster; whereas a community that takes its luxury in the form of material goods will have learned in the process of production much technical skill, and will have accumulated vast funds of machinery and tools. If there is anything that modern warfare has taught, it is the superiority in war of the nation that is thus equipped. The technical skill and the machinery which are accumulated for purposes of production may easily be turned to the purposes of destruction, and in war the community that is best equipped for the work of destruction will win.

Reducing the rate of permanent construction. So far the argument seems conclusive in favor of material luxury as against immaterial luxury in the form of leisure and idleness. We are far, however, from a complete justification of luxury in the ordinary sense. The community that is in the habit of investing its money for the future rather than of buying objects

of immediate gratification will likewise have a fund of surplus energy at its disposal. All the energy which has been devoted to permanent construction for the future good of society may, in time of great national crisis or local disaster, be redirected toward meeting the crisis or repairing the local damage. The kind of skill which is necessary to permanent construction is of quite as high an order as the kind which is necessary to the production of ephemeral articles of consumption. All the advantages, in short, which a luxurious community possesses for the meeting of a great crisis are also possessed by the thrifty community which spends a good portion of its income in durable construction and in building for future generations. In the long run the community that spends a large portion of its energy in permanent construction will have certain advantages over the community that consumes luxuriously. If every farmer, for example, should put back into his farm a part of his annual income, in the way of improvement of the soil, in ditching, draining, fencing, and building, he would be using up surplus energy just as truly as he would be if he spent that amount of money in luxurious consumption. In time of national crisis he can suspend, for the time, further building and improvements on his farm and have energy to spare for the production of more food; or he can dispense with a certain amount of hired help, which will then be available for government purposes. After a few generations the nation whose farmers systematically put back into their farms a part of their incomes will have much better farms and much greater productive power than the community which merely keeps its agricultural wealth intact and spends the surplus in luxurious consumption.

That which applies to farms applies also to factories, shops, and all other productive establishments. The community which is in the habit of adding to its accumulated wealth in each generation by investing a part of its income in tools and instruments for future production will, after the lapse of a few generations,

be vastly stronger than the community which merely keeps its productive power intact and consumes all its income. Thus we reach the conclusion that, although the luxurious consumption of material articles may be very much better than the luxurious enjoyment of leisure, nevertheless thrift, forethought, and the investment of incomes in instruments for future production is better still. He who does less well than he can, does ill. Therefore he who consumes luxuriously when he might invest productively is doing badly.

CHAPTER XLI

THE CONTROL OF CONSUMPTION

Sumptuary laws. Luxurious consumption can undoubtedly be condemned on economic grounds as being less desirable than frugality, forethought, and the investment of funds in productive industries and objects of durable satisfaction. Nevertheless it does not follow of necessity that the government should, through sumptuary laws, attempt to repress luxury. To prohibit the consumption of articles of luxury might very easily take away the motive to industry. If the people cannot have expensive commodities, they may take their luxury in the form of leisure, idleness, and self-amusement. This, as we saw in the last chapter, is even less desirable than luxurious consumption. If we grant the argument used by Mill and others, to the effect that an increase of wants sometimes has the effect of overcoming the tendency to sloth and idleness, it would follow that if the government should make it impossible for men to gratify these increased wants, it would merely drive the people back into sloth and idleness. This could only be counteracted by other laws compelling them to work, which would be a kind of slavery.

Legislative control not always effective. One of the last things that we learn regarding legislation is that it usually takes a large number of new legislative acts to correct or counteract the unlooked-for results of any legislative act.

Another objection to legislative attempts to suppress luxurious consumption is the one pointed out by Adam Smith and others, to the effect that when their habits of life are fixed, men and women will frequently give up the necessaries of life before they will give up luxuries. This applies especially to the

attempts to make luxuries expensive by taxing them. When they become very expensive, some people will insist on having them, even if it takes their whole income to buy them and leaves them nothing for the necessaries of life.

These arguments, it will be noticed, are based upon the inefficiency of sumptuary laws rather than upon any more fundamental objection to them. In general they seem to produce results which are worse than the thing they try to cure. Nothing whatever can be said, however, against a voluntary foregoing of luxuries and a rationalizing of standards of living on the part of the people themselves. It is one thing for the people to want the right things; it is quite a different thing to try to force them to consume the right things whether they want them or not. It is one thing for the people voluntarily to give up luxuries; it is quite a different thing to compel them by law to do so, whether they are willing or not.

Control of vice is "sumptuary legislation." In some extreme cases, however, a luxury becomes so extremely demoralizing and dangerous to society as to justify government regulation or suppression. There may be undesirable results of such legislation, — there are pretty sure to be; but if these undesirable results are less undesirable than the thing which is suppressed, there is a net gain. Regulation or suppression of vice of all kinds is a kind of sumptuary legislation. If the vicious habit or the vicious form of consumption is sufficiently injurious, its suppression is justifiable, even though some undesirable results may follow its suppression.

There are, however, a good many sentimental objections to sumptuary laws which have no connection with the real objections. We are all consumers, and if the government begins regulating consumption, we are each of us likely to come in for a certain amount of regulation. We are rather impatient of all kinds of regulation when it is applied to ourselves, though we may be very patient of the regulation of other people, as we are patient in the contemplation of other people's troubles. We

are not all of us in the banking or the railroad business, and do not feel in danger when the government undertakes to regulate those and other special lines of business.

No essential difference between controlling business and controlling consumption. This consideration has led to quasi-serious attempts to draw a sharp distinction between the regulation or control of business and the regulation or control of consumption. But all such distinctions are trivial. Habits of consumption, as stated above, are quite as important to the welfare of the nation as methods of doing business. To attempt to regulate or control either is certain to produce undesirable results. Nevertheless, where the evils, either of unregulated consumption or of unregulated business, are great enough, we must have regulation and take our chances with the evils and difficulties of regulation. When we forget our own personal interests and begin to think in terms of the prosperity, power, and greatness of the nation, all our sentimental objection to either form of regulation will disappear, and we shall begin to weigh the evils of lack of regulation against the evils of regulation. Whenever the balance turns in favor of regulation, we shall be ready for it.

The national rather than the personal point of view. If one will look around and see what is going on, one will discover that the people who think in terms of nationality rather than in terms of self-gratification are just as prone to legislate on matters of consumption as on matters of business. It is only those who think in terms of their own interest who are likely to make any distinction. Again, regulation, control, or suppression of the consumption of alcohol is one of the most widespread and democratic movements of the world to-day. Very few of those who favor this kind of legislation — generally none of those who lead in the movement — have anything personal to gain by it. Most of them do not use alcohol and it does them very little direct harm. The suppression of liquor is favored in this country mainly by those who have been here long

enough to develop a sense of nationality. It is opposed mainly by those who have not been here long enough to develop an interest in the future prosperity, power, and greatness of the nation.

Whenever a nation is facing a great crisis in its history, when its strength and endurance are being put to a severe test, when, in short, it is fighting for its life as a nation, the people are forced to think in terms of national life rather than in terms of individual life. At such times the people find it just as necessary that the government shall regulate consumption as that it shall regulate production. They also find that freedom of speech is not more sacred or inviolable than freedom of running a business. Military necessity always inaugurates a régime of regulation and compulsion. War is compulsory business from beginning to end. When a nation enters upon a great war, it passes instantly from the realm of gold to the realm of iron, — from a realm in which a price list is followed and voluntary agreement is the general rule to a realm in which authority is obeyed and compulsion is the general rule. Compulsion is likely to apply in all fields of activity, not simply in the field of production and business management, of transportation and food distribution, but also in the field of consumption and even in the field of selling talk for a profit.

Selling talk for a price. Those who make their living by talking and writing are frequently unable to see any reason why their business should be regulated by the government. These are the people who are likely to be the strongest advocates of "freedom of speech" and "freedom of the press" and, in general, of a *laissez-faire* policy with respect to their own business. As consumers are likely to object to the regulation of consumption, and business men to the regulation of business, so the talkers and writers are likely to object to the regulation of talking and writing. Nevertheless, those who think in terms of the national interest are not likely to be influenced by these distinctions. The censorship of the press, the control of consumption, and the regulation of business may all be equally

justifiable at such a time. Instead of trying to find reasons why their own business should receive such consideration from the government, it would be a profitable exercise for all of us to ponder a little more upon a certain text regarding those who are more anxious to extract motes from their brothers' eyes than beams from their own.

Vice as a selective agent. One of the strongest arguments against the public regulation of vice or injurious forms of consumption is that vice acts as a fool-killer and helps to rid the world of those undesirable persons who are unable to withstand temptation. There is some merit in this argument, and if the fool-killer worked with more accuracy than it seems to do, so that no one but the guilty individual ever suffered from his guilt, the argument in its favor would be very strong. Unfortunately there are not many cases in which the vicious individual injures no one but himself. He is quite as likely to injure others as to injure himself. If it were true that the individual who succumbs to vice never injured anybody else but himself, it might be argued with a good deal of reason that the best way to get rid of him would be to allow him to destroy himself as rapidly as possible, — that by so doing we should in the course of time build up a strong race of people, who could live in the presence of temptation without injury. In a certain primitive state of society, where there was little interdependence of parts, all this might be true. In a highly complex society, such as that with which we are acquainted, it is not true. The individual who succumbs to vice is a menace to the whole community. The danger is not confined to the innocent members of his own family, who of course are frequently reduced to want and humiliation through no fault of their own.

We must keep certain large and tangible facts always before us when we are considering questions of this kind. The chauffeur who destroys his dependableness through his own vice may occasionally injure himself, but he is rather more likely to injure other people. The locomotive engineer who becomes

incapacitated through any kind of vice or bad habit may occasionally destroy himself, but he usually destroys a number of others in the process. The motorman, the train dispatcher, the surgeon, the drug clerk, and a multitude of others who are in responsible positions imperil others quite as much as themselves if they ever become irresponsible and undependable through drunkenness or any other vice.

Any vice which acts so swiftly and so injuriously must seriously endanger the rest of society and must obviously call for public regulation. This applies not simply to the extremely injurious forms of consumption known as vice, but to any kind of injurious or irrational consumption, such as luxury. In a time of national crisis, when every ounce of productive energy is needed to meet the situation, he who consumes luxuriously is causing the waste of productive energy and is thus interfering with the success of the nation. In time of war, when armies and navies must be raised, ships and munitions manufactured on a vast scale, and food and clothing produced more abundantly than ever, the question is always one of economizing productive power. To use up any of this productive power needlessly in the production of luxuries is to take it out of the nation's industries and even to threaten national disaster. In such times the injury which follows from luxurious consumption is so desperate as to justify public regulation. Even though some injurious results may follow from this regulation, these can scarcely be any greater than those which follow the unregulated consumption of luxuries.

In normal times the danger from luxurious consumption is not so acute, and the need for regulation is therefore not so great. In this case we may have to consider whether luxurious consumption is more injurious than the efforts to regulate it. This consideration, however, applies to all other forms of regulation and control. There is involved here a question of balance of profit and loss. It is highly important that on all questions of regulation we balance the accounts carefully.

There is some cost in the mere extension of government control and multiplication of government offices. This diverts men from productive industry into government jobs. Unless they can save more to the country through their efforts as government officials than they could produce if they were left in productive industry, the loss is greater than the profit. Again, if through too much regulation legitimate industries are discouraged to a degree that more than offsets any saving which comes from regulation, there is always a net loss. In the case of mild luxuries which work no very serious injury to anybody, the general rule has been not to waste any energy by multiplying government offices in order to suppress them. But in times of national crisis the policy with respect even to mild luxuries may have to be changed. In normal times as well as in times of crisis the injury from certain extreme forms of luxury may be so great as to justify permanent control, regulation, or suppression.

Luxurious consumption does not increase the demand for labor. There can be no doubt, however, that luxurious consumption is in itself an injury to the public, and particularly to the laboring classes, however inexpedient it might be for the government to use its power of compulsion to prohibit luxury. There is an ancient and nauseous fallacy to the effect that the extravagance of the rich gives employment to the poor. Nothing could be any farther from the truth. The extravagance of the rich gives much less employment to the poor than the accumulation and investment by the rich in various kinds of productive industry. The individual who buys extravagantly does of course set labor to work producing the objects of extravagance, but the individual who invests largely also sets labor to work producing the buildings, tools, etc. in which he invests. In addition to this he adds definitely to the productive power of the community. Furthermore, labor must be hired to make use of the buildings and the tools, and there is a larger social product out of which to pay their wages.

Comparatively speaking, therefore, the extravagance of the rich takes away from the employment of the poor. From that point of view extravagant consumption is a social injury.

Leisure versus luxury. If, as suggested above, there were no ulterior results from the suppression of extravagance, the state would be fully justified in suppressing it; but if the suppression of extravagance merely produced leisure and idleness, instead of extravagance, more harm than good would be done. We must conclude, therefore, that where a form of consumption has become so definitely vicious and injurious to the rest of society as to produce more harm than would probably be produced by compulsory suppression, then suppression must be justified. But where, even though it be harmful, it is not more harmful than other results which would probably follow from its suppression, then suppression is not justifiable. It must be remembered, however, that laws suppressing vice are in a sense sumptuary laws. The only difference between these and other sumptuary laws lies in the fact that the forms of consumption which they attempt to regulate or suppress meet with such general disapproval as to make their suppression popular, whereas in other cases the forms of consumption are not universally condemned and therefore their suppression is not generally approved.

Rationing the people. That school of social philosophers who hold that all forms of competition are inherently evil, and that therefore government compulsion and regimentation should be made use of to stop competition, would, if they were consistent, desire to begin with sumptuary regulations. As stated in a previous chapter, there are three main forms of economic competition, — competitive production, competitive bargaining, and competitive consumption, — and of these three competitive consumption is infinitely worse than either of the others. By an authoritative standardization of wearing apparel, food, and other forms of consumption we should tend to eliminate this worst form of competition. That would involve,

of course, the organization of society on a semimilitary basis, though the object need not be military conflict. It would mean the prescribing of a satisfactory uniform for all members of the community, and also of a uniform diet or ration. Houses, furniture, and other consumable goods would also have to be standardized and prescribed by government regulations.

There is no doubt whatever that if the people would accept this kind of regimentation and work cheerfully under it, we should prevent the waste of a vast amount of energy and avoid many petty jealousies and heartburnings. Academic costume, whatever may be said against it on other grounds, has the advantage of saving academicians a great deal of perplexity over the question, "Wherewithal shall we be clothed?" The costumes and vestments of certain religious orders answer the same purpose. There are also many religious sects, of which the Quakers of the old school were a good illustration, which succeeded in saving their people from that destructive form of competition which strives, first, to outshine one's neighbors in matters of dress and, second, not to be outshone by one's neighbors.

In a time of great national crisis we have many illustrations of what people may accomplish in the way of economy and effort by putting the whole nation on a fixed ration and also by prescribing the manner of dress of each class of the nation. If the people would submit cheerfully to similar regulations in time of peace, all the vast energy which in time of war is devoted to the work of destruction could then be turned to the work of production, and industrial progress could proceed at a stupendous rate. It is not impossible that at some time in the future there may be a real effort on the part of certain ambitious nations to economize their energy in this way in order that they may increase their strength rapidly in preparation for Armageddon.

CHAPTER XLII

THE BATTLE OF THE STANDARDS

Competitive and cheap standards of living. It has generally been taken for granted that the cheap standard of living would drive out a dear standard. It is asserted that people who are willing to live and multiply on a very small income will always tend to displace those who are unwilling to live and multiply except on a liberal income. If sheep and cattle are allowed to multiply and wander at will over the western ranges, it is plain that the sheep will drive out the cattle, not because they are superior in value or in fighting power, but merely because they are able to nibble closer to the ground and to live where cattle would starve. A similar law appears to operate throughout the human as well as the animal world. Those who can live on the least seem at times to be able to drive out all others by eating them out of house and home.

It must be confessed that there are some facts which seem to support this conclusion. The American laborers on the Pacific coast find it very difficult to compete, at least in the unskilled trades, with the Chinese and the Japanese. On the Atlantic seaboard employers of labor have been able to tap various reservoirs of cheap labor, first in northwestern Europe, later in southern and eastern Europe. These laborers, having been accustomed to very small incomes, are able and willing to work and multiply on incomes so small as to drive out, at once or ultimately, either the American laborers or the immigrant laborers of a previous immigration. The later immigrants drive the earlier immigrants out directly by accepting lower wages than the earlier immigrants are willing to accept; they drive them out indirectly by multiplying rapidly and thus

supplying a new stock of labor where the others would refuse to multiply. In many farming communities it is found likewise that foreign-born farmers, who are willing to live on less than the American-born farmers, can, if necessary, pay either a rent or a price for land which would bankrupt the American farmer with his higher cost of living. Thus the land tends to pass into the hands of those farmers with the cheap standard of living. On the Pacific coast, again, the same tendency shows itself. The Chinese and Japanese farmers and gardeners are able to buy land and pay for it at a price which an American farmer with his higher standard of living would find impossible.

A cheap standard does not always drive out a dear standard. It must be pointed out, however, that not every people with a low standard of living have high competing power. The Mexican peons have as cheap a standard of living as the Chinese coolies, and yet they do not compete successfully even with Americans, who have a higher standard of living. In other words, there must be coupled with a cheap standard of living considerable industrial efficiency. With equal industrial efficiency, the race with a cheaper standard of living seems to have the advantage in economic competition. On the other hand, with an equal standard of living, the race with the higher industrial efficiency has the same advantage in economic competition. In fact, we find that even with a more expensive standard of living, the race whose industrial efficiency expands in proportion to its cost of living holds its advantage in economic competition.

Competing power is equal to production minus consumption. This brings us back to the formula which was used in a previous chapter to express the value of a man: $V = P - C$. The value of a man is equal to his production minus his consumption. By his value we mean his value to his race or nation. That which he adds to the total resources of his nation in excess of what he extracts from those resources is his net contribution to the strength of the nation. The nation will be

strongest, in the long run, whose average citizen has the highest value in this sense. That nation will be weakest, in the long run, whose average citizen has the lowest value in this sense. But that citizen's value may be increased, not simply by reducing his consumption but by increasing the difference between his consumption and his production. Adding to his production is just as essential as keeping his consumption within efficient bounds.

If we seek a formula which will express the competing power of a whole nation, it must be very closely related to the formula which expresses the value of one of its citizens. That formula is $CP = P - C$; that is, the competing power of a nation is equal to its production minus its consumption. The nation or the race in which there is the widest margin between production and consumption will win in economic competition against all comers. If the American farmer were enough more efficient as a producer than the foreign-born farmer to compensate for his higher cost of living, he could hold his own indefinitely in economic competition. It is not, therefore, the cheap standard of living which invariably wins; it is the efficient standard of living. A race with an expensive standard of living, provided every dollar of expense adds something to its productive efficiency, will always win in competition with a race with a cheap standard of living. If, however, the expensive standard is made expensive merely by the demand for luxuries and means of dissipation, the race is hopelessly handicapped and must ultimately lose in competition with other races. But if the cost of living is made high by the demand for strength-giving food and recreation, for means of mental stimulation, or for books, instruments of precision, and other means of technical education, such a standard of living may increase the margin between production and consumption rather than diminish it. In that case, not only can the race possessing such a standard of living hold its own in competition at home, but the members of that race can go anywhere in the world and hold

their own in competition against the natives. Such a race will be an expanding, colonizing race; wherever its members plant themselves, they will succeed and remain; whereas, if their standard of living is merely expensive without being efficient, they are likely to fail as colonizers. In the West, when such people fail and return to the East, they are said to be going back East to live with their wives' folks.

International competition. A race with a high but inefficient standard of living sometimes finds it necessary to protect itself, at least within its own boundaries, against the competition of races with a cheaper but more efficient standard. Otherwise they would find themselves ultimately dispossessed even of their land. The race with the cheaper and more efficient standard would not only get the jobs in industry, but would eventually buy the farms and the businesses at prices which the natives would be unable to pay. The natives would give way before such a race as inevitably as before an army equipped with superior weapons of offense.

Moreover, the problem is not solved by the mere exclusion from our own territory of races with a cheaper and more efficient standard of living. The conflict is merely changed to another field and the outcome postponed to a more remote period of time. International competition is just as real as individual competition within the nation, though it does not seem so real to the average person. In the competition for the markets of the world the race with the cheaper and more efficient standard will have the same advantage as it would have in getting jobs or in buying farms and businesses within the confines of a given country.

The race with the expensive or inefficient standard may hold certain advantages because of the peculiarities of its geographical situation. If it possesses superior soil or superior mineral deposits, these physical advantages may compensate, in part at least, for the inefficiency of its standard of living and enable it to survive in international competition. Superior

mineral deposits, however, must ultimately be exhausted. Superior soil can be maintained only by wise management. The nation that depends upon these material advantages for its future strength in international competition must look well to its problem of conservation. If it does not, it will eventually lose these advantages, and then its more expensive standard of living will place it under a severe handicap. If so, it need not necessarily perish as a nation, but at best it will live at a "poor dying rate."

Even under conditions of international peace, here is a form of international rivalry which will still persist and under which the victory must ultimately go to the race or the nation with the most efficient standard of living; that is, to the race or nation in which the production of the average person exceeds his consumption by the widest margin.

The real Armageddon. Here is a real Armageddon, the battle field of the nations, — the place for the ultimate contest for supremacy among the various races and nations of the earth. This is the field where every nation in the world must sooner or later be brought to the test and made to battle for its very existence. It is a peaceful contest, but none the less deadly on that account. Preparedness for this final and ultimate conflict will consist in the study of standards of living and the adoption of such standards and habits as will increase productive efficiency to the maximum and reduce the cost of living to the lowest point which is consistent with maximum productivity. In the interest of this form of preparedness it will be well for us to ponder the advice of Pythagoras to his son: "Choose those habits which are best; custom will make them the most agreeable."

PART SIX

PUBLIC FINANCE

Which has to do with the revenues of government and the utilization of those revenues by government

A great part of the study of public finance has to do with the technical details of the administration of taxing systems and the control of public expenditures. Therefore only the general principles of taxation are discussed in this book, which is a book for beginners.

CHAPTER XLIII

TAXATION

Classification of revenues. The government as distinct from the people has needs of its own and must have revenue out of which to supply those needs. There are various sources of public revenue, but in modern times the chief source is taxation. Henry C. Adams, in his work on finance,[1] gives the following classification of public revenue:

- PUBLIC REVENUE
  - 1. Direct revenue
    - *a.* Public domains
    - *b.* Public industries
    - *c.* Gratuities or gifts, or treasure-trove
    - *d.* Confiscations and indemnities
  - 2. Derivative revenue
    - *a.* Taxes
    - *b.* Fees
    - *c.* Assessments
    - *d.* Fines and penalties
  - 3. Anticipatory revenue
    - *a.* Sale of bonds or other forms of commercial credit
    - *b.* Treasury notes

In former times the public domain was made to supply a large part of the revenue for the government. In fact, under the feudal system, property in land and something resembling public office went together. The king had his own demesne; so likewise did his retainers and all members of the nobility. The nobility formed the chief fighting class and likewise the administrators of local government, each deriving his income from the lands which were granted to him.

Public industries have not figured very largely as sources of public revenue, unless royalties from mines could be put in this

[1] The Science of Finance, p. 227. New York, 1899.

class. A number of European cities have derived portions of their revenue from their own water, gas, and electric-light plants. Gratuities and gifts, as well as treasure-trove, are negligible sources nowadays. Confiscations and indemnities belong to a lower stage of civilization, where militancy and the lust for conquest prevail. In all civilized governments taxes have become the chief source of revenue, fees, assessments, fines, and penalties forming subsidiary sources.

What is a tax? A tax is a compulsory payment to the government for which the government does not return to the individual payer a commodity or a service. The money, for example, which one pays for a postage stamp is not a tax; it is rather a purchase of a service. Where a municipality owns its own water supply and charges water rates, these rates are not in any proper sense taxes; they are, like the purchase of postage stamps, payments for service. The same is true of the price paid for any direct service which the public renders.

To be sure, the public renders general services for all its taxes; but in the case of a tax there is no attempt to apportion the payment exacted of the individual to the benefit which he as an individual receives. Doubtless everyone receives some advantages from the existence of an army or a navy, of courts, or of policemen; but his tax is not of the nature of a purchase, since he must pay the tax whether he thinks he is getting anything in return for it or not, and the amount of the tax bears no relation whatever to what he thinks the value of the service of the State may be to him.

Some taxes are absolutely compulsory. Others are compulsory only conditionally. An income tax, an inheritance tax, or a poll tax is absolutely compulsory. The individual has no choice in the matter. An excise or a tariff duty may be avoided by avoiding the use of the articles on which these duties are levied. One may avoid the excise duty on tobacco, for example, by refraining from the use of tobacco. And yet when one pays this tax, he is not receiving from the government a service,

since the government did not produce the tobacco but only charges the manufacturer or the dealer for the privilege of manufacturing and selling.

So-called indirect taxes. The taxes just described are generally called indirect taxes. In case of a tariff duty, for example, the importer of the dutiable article pays the tax directly to the government. From his point of view it is just as direct as any tax. It is the general theory, however, that the consumers of the imported articles pay the tax in the form of higher prices. In cases where that happens the consumers may be said to pay the tax indirectly. This is by no means always the case, however, and it is not always easy to determine who does actually pay the tariff duty. It is therefore doubtful whether or not the term *indirect taxation* should be retained in economics. All real taxes are direct in the sense that the payers pay their money directly to the government. In some cases, however, the payer is able to shift the tax to somebody else by charging a higher price for a product or by paying a lower price to the one from whom he himself buys the product. The manufacturer of alcoholic liquor pays his excise duty as directly to the government as any other tax; but if he charges the consumer a higher price for the liquor, the consumer is then said to pay the tax indirectly; but he may also pay the producer of the raw materials a lower price, and in that case it is the producer who pays the tax, in part at least; and if the manufacturer carries a part of the burden which he is unable to shift to someone else, he himself bears that burden directly, not indirectly.

Taxes and monopoly price. A common abuse of the word *taxation* is to apply it to monopoly price by saying that the monopoly taxes the people. It is sufficient in a case of this kind to say that the monopoly charges too high a price, or a monopoly price; it does not add anything to the clarity of the discussion to bring in the word *tax*. Where the monopoly sells a commodity or a service, even though it sells it above cost, the individual gets what he thinks ought to

be the equivalent of what he pays; otherwise he would not have purchased the article. Similarly, the government might, if it chose, charge more for postage stamps than the cost of carrying the parcels. This would not properly be called a tax; the proper expression would be to say that the government is charging a high price.

Eliminating compulsion in public business. Even where the government derives a part of its revenue from a public industry, the element of compulsion is generally present. If the revenue from the industry does not pay the expenses, the industry cannot become bankrupt and its affairs be wound up by legal proceedings. The government can merely tax the people or derive an enforced revenue from some other source to pay the deficit; that is, it can use its power of compulsion to keep alive an unprofitable industry, whereas an individual or private corporation lacking the power of compulsion would have no power to keep its business alive.

Again, it will generally be found that the government exercises some compulsion by excluding competitors from its own particular field. No one is allowed to compete directly with the federal post office in carrying first-class mail. The government's power of compulsion is exercised in its own behalf. In fact, it is doubtful if there is a case on record where any government has succeeded in doing anything well on a purely voluntary basis. It has had to use its power of compulsion at some point or other in the enterprise. It has either raised funds by compulsion or excluded competitors by compulsion, has repressed opposition and criticism by compulsion, or in some other way made use of this great advantage which it possesses over all private organizations in order to insure its success.

These observations are made not for the purpose of criticizing or opposing government enterprise, but merely in the interest of truth and accuracy. Government is compulsion; and when properly exercised, compulsion is beneficent. One of the great and really unsettled questions, however, is as to

the limits within which compulsion is beneficent and beyond which it is interference.

Earmarks of a good revenue system. Henry C. Adams gives the following as the marks of a good revenue system. (1) It must be adequate to the just wants of the state. (2) It must present itself as a system and not as an aggregation of independent and unrelated acts. (3) In a federated government such as we have in the United States the revenue domain of one branch of the government should not encroach upon the revenue domain of another in such a way as to bring confusion. In other words, there must be harmony and balance between the central and local governments, between the local governments themselves, and between the several organizations of local government. (4) It should provide for elasticity of the revenue at the point where elasticity is needed; that is, the revenue must be capable of increase and decrease whenever and wherever it is needed.

Double taxation. The second of these is of particular importance in the United States of America. Paraphrasing the famous rule of the Donnybrook Fair, we have apparently followed the rule, "Wherever you see a thing, tax it." This has led to a great deal of confusion, — to double taxation in some cases and to complete escape from taxation in others. By double taxation is meant taxing an individual or different individuals twice for the same thing. If, for example, a farmer owns a piece of land and also has in his possession a piece of paper called a deed to the land, and if he is taxed once on the land and again on the deed to the land, that is obviously a case of double taxation. If, however, one farmer owns a piece of land and another owns a mortgage on it, the owner of the mortgage is virtually, if not literally, a part owner of the land. If, now, the farmer pays taxes on the full value of the land, and the mortgage owner pays on the full value of the mortgage, there is an equally clear case of double taxation. The double tax really falls on the farmer, because, where mortgages are

taxed, the interest rates are made higher in order to recoup the lender for the tax which he has to pay.

During the years 1917 and 1918 our federal government sold large numbers of bonds bearing $3\frac{1}{2}$ per cent interest. One of the arguments was that, since they were free from taxation, one received practically as much net income as he would receive on taxable property yielding nominally 5 per cent but being taxed $1\frac{1}{2}$ per cent. Where mortgages are not taxed, the same argument would apply and would be effective. If in one state a lender is compelled to pay a $1\frac{1}{2}$-per-cent tax on his mortgage, and in another state he does not have to pay any tax, if he is an honest man he would as lief lend at $3\frac{1}{2}$ per cent in the latter state as at 5 per cent in the former. If he is dishonest, however, he may take his chances on avoiding taxation in the former, and if he succeeds he may receive his 5 per cent net. Again, where a corporation owns certain amounts of visible property, but the shareholders have pieces of paper as evidences of their ownership in undivided shares of this property, if the visible property is taxed and the individuals are also taxed on the pieces of paper which they hold as evidences of ownership, the effect is very much the same as though the farmer were taxed on his farm and also on the deed which, like the share in a corporation, is only an evidence of ownership.

Overlapping of tax systems. The third of these marks of a good system is also important in this country. The conflict of jurisdictions between federal and state governments, and between the state governments themselves, has produced a great deal of confusion and also a great deal of double taxation. Various remedies for this situation have been proposed, among others the subdivision of the various sources of revenue, each grade of government to be allowed its own particular source. The federal government, for example, is by the Constitution given exclusive right to levy duties on imports. Since no state or municipality is permitted to enter this field, there is no confusion there. It has also been

suggested that real-estate taxes should be left exclusively to the local governments, — municipalities, counties, and townships. It is thought by certain writers that licenses and franchises also should be left exclusively to local governments. Incomes and inheritances would seem to be suitable subjects for state taxation. Stamp taxes of various sorts must apparently be left to the federal government.

No very clear dividing line has been generally agreed upon for the separation of federal from state sources of revenue. Certain writers of high authority hold that the income tax should belong exclusively to the states and that the federal government should keep out of this field. Their views, however, have not received general public support. We already have duplication in this field; that is, in most of our states we have income taxes in addition to the federal income tax.

Inelasticity of inheritance taxes. The inheritance tax is an excellent source of revenue, being very productive; but it should, from the nature of the case, be a permanent tax not often to be changed. In the course of a generation practically every estate will pass by inheritance and be taxed. But in any given year or decade only a certain percentage of them will pass by inheritance and be taxed. If, therefore, the tax is changed frequently, different estates will bear very different burdens. If, during a few years, a very high inheritance tax prevails, the few estates that pass by inheritance during those years will bear a heavy burden; and if, during another few years, there is a very low tax, the estates which pass in inheritance during those years will bear a very light burden.

An income tax, however, may be changed frequently without injustice to individuals. Everyone who receives a taxable income is likely to receive it every year. The tax may be changed every year without showing any discrimination in favor of or against individuals. This would seem to make it necessary that an inheritance tax should be permanent and be the source of a considerable revenue, but that elasticity should be

secured from an income tax, which may be changed frequently as occasion demands an increase or decrease of public revenue.

The characteristic form of American taxation, however, is what is known as the general property tax. Nearly every state in the Union has had, either in its constitution or on its statute books, laws requiring the equal taxation of all forms of property. In many cases this has worked to the utter confusion of our financial system. One result is that visible property is taxed and invisible property escapes. The farmer's land and buildings, livestock and machinery, can scarcely be hidden, and the assessor finds them. Many of the intangible and invisible forms of property, however, are difficult to find and can frequently escape taxation. Strange as it may seem, many rural districts show a larger percentage of personal property and a smaller percentage of real estate than most of our cities, because much of the farmer's personal property (machinery, tools, etc.) is of a kind that cannot well be hidden. No one really believes that farmers own a larger percentage of personal property and a smaller percentage of real estate than city people, and yet the assessors' books indicate that they do.

Progressive taxation. Various expedients have been adopted to make taxes more just than they are under the crude general property tax. Among these laws one of the most important is what is known as the graduated or progressive tax. This may apply either to general property, to incomes, or to inheritances. The principle of the progressive tax is that the larger the sum to be taxed, the higher the rate of taxation. To begin with, even an exemption operates to a slight extent as a progressive tax. An income tax which exempts, let us say, $2000 from all taxation and taxes only the excess above $2000 is slightly progressive, even though it is nominally proportional. A tax of 1 per cent on the excess over $2000 would work somewhat as follows: On $3000 the tax would be $10, which is one third of 1 per cent on the whole income; on $4000 the tax would be $20, which is one half of 1 per cent on the whole

income; on $6000 the tax would be $40, which is two thirds of 1 per cent on the whole income.

A genuinely progressive tax, however, proceeds farther than this. It begins, let us say, with a 1-per-cent tax on the excess above $2000, 1 per cent more on the excess above $10,000, and 1 per cent more on the excess above $50,000, and so on. Under this scheme, then, the individual who had an income of $60,000 a year would pay 1 per cent on $58,000 (the excess above $2000), 2 per cent on $50,000 (the excess above $10,000), and 3 per cent on $10,000 (the excess above $50,000), making a total of $1880. Whether the tax be an income tax, an inheritance tax, or a tax on general property, the principle of the graduated tax is the same.

Canons of taxation. Adam Smith, in his "Wealth of Nations," laid down what have since his day been called the canons of taxation. They are as follows:

> (1) The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state. . . . (2) The tax which each individual is bound to pay ought to be certain, and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person. . . . (3) Every tax ought to be levied at the time, or in the manner in which it is most likely to be convenient for the contributor to pay it. . . . (4) Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of the state.[1]

The first of these relates to the general question of justice; the others are so obviously practical and expedient that there has never been any serious discussion of them. A great deal of discussion, however, has centered round the first. Just what is meant by "in proportion to their respective abilities" has never been definitely decided. At first thought it sounds as though this meant proportional rather than progressive, or

[1] Adam Smith, The Wealth of Nations, Vol. II, pp. 414, 415, 416.

graduated, taxation. If we assume that a man's ability is in exact proportion to his income, then obviously if he pays in proportion to his ability he must pay in proportion to his income. But it is contended that a man's ability to pay increases more than in proportion to his income, and that therefore if he pays in proportion to his ability, he must pay a progressive, or graduated, tax on his income or his property. That there is some justification for this opinion is evidenced by the almost universal practice of exempting a certain minimum. The individual whose income is barely able to support him and his family may be said literally to have no ability to pay taxes, and yet he has an income. If his income is slightly greater than necessary to support himself and his family, then he may be said to have some ability to pay taxes. This obviously calls for a certain degree of progression in the way of taxation.

Repressive taxation. The tendency is more and more for expert opinion to favor some sort of progressive, or graduated, taxation as more just than proportional taxation. Just how far in this direction we should go is not easy to determine. It is never wise to kill the goose that lays the golden eggs. Neither is it ever wise to tax anyone so heavily as to drive him out of productive business. If taxes are ever made so heavy upon people who are carrying any large enterprises as to discourage accumulation, enterprise, and thrift, the state will be doing itself an injury. Professor E. A. Ross[1] has suggested a new canon of taxation to add to the four which Adam Smith gave us: A tax should be as little repressive as possible.

The sum and substance of all sound taxation is that the taxes should be as little burdensome as possible. The burden of a tax is twofold. There is, in the first place, the disadvantage to the payer of the tax. It is a loss to him to have to give up his revenue. In the second place, there is the discouragement to enterprise which a heavy tax involves. This is

[1] "A New Canon of Taxation" (abstract), Publications of the American Economics Association (1893), Vol. VIII, pp. 49–50.

particularly disastrous when the government is irregular and whimsical in its taxing moods. When producers never know what to expect from the government and its tax collectors, they have little inducement to enterprise. Under such conditions there will be little wealth produced for the government to tax, and things are likely to go on from bad to worse.

In case there are undesirable businesses which the government does not care to prohibit, or undesirable habits which the government does not care to suppress, the repressive power of taxation may be used. Men may then be made to pay for their folly, or to give up their folly to avoid taxation. In extreme cases complete suppression is doubtless better than mild repression; in milder cases, such as luxurious consumption, ostentatious dressing, etc., the mildly repressive effect of a tax is desirable.

CHAPTER XLIV

THE FINANCING OF A WAR

What is meant by the financing of a war. By the financing of a war is meant the keeping of the National Treasury supplied with money with which to purchase military supplies and pay other war expenses. This problem should be kept distinct from the physical problem of producing supplies and war materials. The latter is a problem not for the financial expert but rather for the industrial engineer, the business manager, or some other expert in the organization and coördination of the factors of physical production. While the financial problem is one of tremendous importance, it is not only less important but also very much less difficult than that of producing the supplies themselves.

Financial problems less difficult than problems of production. Difficult as is the financial problem, all the factors are within the control of the government, or at least of the people behind the government. Consequently, if they fail in their attempts to handle the problem, they have only themselves to blame; their failure cannot be laid to the physical difficulties or to factors which lie beyond their own control. In short, the failure will be due to the stupidity of their rulers or of the people who refuse to support a sound financial policy on the part of the rulers. The problem of producing supplies, on the other hand, especially on the part of a beleaguered country, may depend upon factors which lie beyond the control of either government or people. For example, the difficulties of the South during the Civil War were on the physical side insuperable; they were hemmed in by blockading fleets and invading armies. On the financial side, however, their difficulties were

of their own creation. In other words, the difficulties in the way of supplying themselves with horses, salt, nitrogen, and a number of other necessaries were insuperable, but the difficulties which they, as well as the Northern people, had in finding money with which to pay for such supplies as they could get were within their own control.

In most of our discussions of the problems of war finance, too little attention is given to certain large elementary principles. The practical financiers are fully absorbed with the details of the problem, and the financial writers in the ephemeral press are more concerned with finding out what the people want them to say, and then saying it, than they are in getting at the root of the problem.

Speeding up the circulation of money. One large economic fact which greatly simplifies the financing of a war is that an increase in the rapidity of the circulation of money has, in all essential particulars, the same effect as an increase in the physical quantity of money. To double the speed of circulation, for example, enables a given quantity of money to do twice as much work. Analogies, though often dangerous, are sometimes useful. A useful one is found between the circulation of blood in the human system and the circulation of money in the country. When increased muscular exertion calls for increased supplies of blood in the limbs, it is not necessary to increase the total volume of blood; the need is met by increasing the rapidity of the circulation. But in order that the heart may send increasing quantities of blood per unit of time to those parts where it is demanded, it must have means of getting increased quantities per unit of time back again from the extremities; in other words, the problem of getting the blood back again is obviously as important as that of pumping it out to the places where it is needed. The National Treasury is confronted by a similar problem in time of war. It is called upon to send out money in increasing quantities to pay the enormously increased expenses of the government. In order

that it may always have sufficient money to pay out for war supplies at an extraordinary rate, it must find means of getting it back again at the same extraordinary rate. Since all the money not actually in the Treasury is in the hands of the people, it is they who must be induced to return it to the Treasury at this extraordinary rate. If the rulers can devise a plan for doing this, and if the people are sufficiently wise, devoted, and loyal to support the plan, there will be no difficulty in the financing of a war. These are two very large "ifs."

More money not absolutely necessary. Another large fact of even greater importance is that the country, as distinct from its government, does not need very much more money in time of war than in time of peace, except for the purchase of foreign supplies. So far as its domestic economy is concerned, it needs only a little more. There are not many more men to be hired; there is not much more work which can be done, because there are not many more men to do it; and there are not many more goods to be bought in time of war than in time of peace. The difference is that the government, instead of private individuals, must hire the men and buy the goods. This makes it physically necessary that private individuals should hire fewer men and buy fewer goods.

Private consumption must be cut down. For example, when I am spending my income in time of peace, I am merely hiring men to make things for my consumption and to wait upon me. All the men in the country are presumably engaged in producing things for consumers and in waiting upon them, that is, upon one another. In time of war it is necessary that a large number of men stop producing things for private consumption and waiting upon one another as private consumers, and begin to produce things for the government and to wait upon the government and serve it as soldiers. It is physically impossible for them to do this unless private consumers are willing to consume less, and to wait upon themselves instead of hiring others to do so. Moreover, it need not take any

more money to hire these men to work for the government than to hire them to work for private consumers.

If, for example, I am spending so much on myself that it takes, in the aggregate, ten men to make things for my consumption and to wait upon me, it will be necessary in time of war for me to live on less, because the government must have some of those ten men. Another way of saying the same thing would be to say that I need these ten men to work for me in another capacity in time of war; I need them to produce war supplies and fight in my defense. The government is my agent in hiring these men and directing the fighting; therefore I must turn a part of my income over to my agent, the government, to hire some of those ten men, while I, with the remainder of my income, may hire the rest to continue working for me. What has just been said in the first person singular can be repeated in the first person plural, and thus it will include us all.

The private consumer bids against the government for man/power. If we are all left undisturbed in the enjoyment of our income, and continue spending it in such a way as to require as many men as before to produce for and to wait upon each of us, while our agent, the government, without taxing us, undertakes to find means to hire the men whom it needs, we shall, each and every one, be competing for these men against our own agent, the government. If the government opens a war chest, or gets its money from another source than our incomes, it will have to bid against us to get men to work and to fight for it. Literally, the government will be trying with a lot of new money to hire them away from us, while we are trying with our full income to hire them away from the government and keep them working for us. Aside from the obvious futility and stupidity of this process, it results in inflation of prices, no matter what the source of the government's money may be.

Taxation enforces economy in private consumption. Here is the first great mistake which almost every government has

made, up to the present time, in its efforts to finance a war: it has hesitated to tax its people. The only sound method of financing a war is to tax the people, and tax them to the bone. Unless it has a war chest which it can open, or unless it issues a lot of new currency, it must get its money from its citizens, in the form either of loans or of taxes. If it does not do one of these things, there is no possibility of avoiding that conflict which has just been described. Leaving the people with their incomes and purchasing power unimpaired will permit them to continue spending their incomes as before, and that spending of income is a demand for men to produce supplies for private consumption and to wait upon the consumers. The only way, then, in which the government can get these men is to outbid the private consumers with its new money. This competition between the private consumers and the government for men and supplies cannot by any possibility result in anything else than an inflation of prices.

Issuing new money a mistake. Even when the government has accumulated a war chest of specie, this money will be used to outbid private consumers for men and supplies, which will result in an inflation of prices. Where the government issues, or causes to be issued, a lot of new credit currency, in order to avoid taxation, the difficulty is exaggerated, for there is not only an inflation but a grave danger of depreciation.

Contrary to a very widely accepted theory, there may be an inflation without any use whatever of credit currency, though this is possible only where a large quantity of standard coin, or metallic money, is injected into the circulation after having been hoarded in the public treasury. The way it gets into circulation in the beginning of a war is through its use by the government in purchasing supplies and hiring men; all the private individuals, with their incomes unaffected, continue purchasing supplies and hiring men as before; and it is this competition of the government, with its new money, against private consumers, with their old money, that starts prices upward and

causes inflation. It makes very little difference whether the new money which the government uses in these purchases is coin which has been hoarded or credit currency which is issued for a special purpose, except where the latter becomes so excessive in quantity as to cause it to depreciate in terms of coin.

Individuals must purchase less if the government is to purchase more. The first and fundamental conclusion, therefore, is that in order to avoid inflation the people must purchase less in proportion as the government purchases more. The only way to force them to purchase less is to get their money away from them. This may be done by several methods as follows:

The first method is that of voluntary loans. People who have been spending their money for other things may be induced to spend it for government bonds. They must then cut down their purchases of supplies. This reduces the demand for men to produce supplies for private individuals. These men who are released from general industry are then available to be hired by the money which is now in the hands of the government. This cannot result in inflation.

Another method is that of forced loans, — the commandeering of the supplies of money in savings banks and other places of deposit. This is virtually the system of conscription as applied to money. Whatever else may be said against this method, it cannot be said to result in inflation, because the people whose money is taken away have less to spend, and therefore they do not compete with the government in hiring men and buying supplies.

Still another method, and the one which ought always to be followed as far as possible, is that of taxation. This is likewise a system of conscription, — the conscription of incomes as distinguished from the conscription of men. It is better than the forced loan because it applies to all incomes and does not penalize those who have shown sufficient frugality and thrift to save and deposit a part of their income instead of consuming it all.

The most futile of all methods is that of issuing temporary credit currency, to be repaid out of war indemnities after a victory. There is, however, one condition under which it may be necessary for the government to have available, in the form either of a war chest or of a credit currency, a new supply of money. It usually takes some months to get the taxing machinery going so as to increase the government's income materially. It may be necessary, in order to tide over these few months, to make use of some extraordinary reservoir of currency. Usually, however, and always if the credit of the government is good, the large sums needed at the beginning of a war can be secured quickly by means of voluntary loans. This is the first and greatest argument in favor of raising money by loans rather than by taxation.

Another argument is that by borrowing the money the financial burdens of the war may be distributed over a longer period than if the money is raised by taxation. It is sometimes said, rather shamelessly it is true, that the people have burdens enough in time of war without having to pay extraordinary taxes. The fact is, however, that those who do not go as soldiers, or give their services directly to the government, bear no burdens whatever except taxes. Most of them, in fact, prosper in time of war. Many a respectable family is still living on wealth accumulated out of the profits of business during our Civil War, while their neighbors were spending their time in the unremunerative work of the soldier. War is not, in fact, a burden upon the whole generation. It is a burden only upon those who do the work of war and those who pay the expenses of war. If war taxes are not increased, many will absolutely escape all war burdens. The question is not, therefore, that of distributing the burden over several generations but of distributing it over all the individuals of each generation.

A third reason for borrowing is found in the necessity of purchasing foreign supplies. In time of war the national

production of articles for private consumption must necessarily be reduced in order that the country may recruit its armies and produce military supplies. Consequently it cannot send so much produce abroad; at the same time it will, in all probability, need to increase its imports from foreign countries. These imports, therefore, must be paid for largely with money. In order to meet these foreign payments, extraordinary sources of monetary supply must be tapped; literally, the money which is sent abroad for the purchase of supplies must be got back again. Since the foreign countries cannot be taxed, it must be borrowed back, perhaps over and over again, in order to make continual purchases. Here is where the credit of the country may be strained. In this case, however, the country's financial failure would be due primarily to its inability to produce its own supplies, rather than to anything inherent in the problem of war finance. The country must either be able to produce its own supplies or else have credit enough to buy them from abroad.

Production of war supplies must be vastly increased. In considering the relative merits of taxing and borrowing as means of financing a war, we must never lose sight of certain basic and incontrovertible facts. One is that if we are to put several million men into the army and navy, it will be necessary to put several million others into the munition factories, shipyards, and other establishments for the production of war supplies. We must even increase the output of our mines and especially of our farms, in order to provide the raw materials and the food supplies. All this will require a good many millions of men. These men cannot be created out of nothing.

Sources of additional man power. There are three sources from which this additional man power can be drawn. In the first place, those who are now at work may work a little harder, either by speeding up or by working longer hours. In the second place, those who are not now at work may be put to

work. In the third place, those who are at work in the industries which are not indispensable may be withdrawn from them in order to expand the industries that are indispensable to the prosecution of a war.

The first two of these sources of man power may be sufficient if the war is to prove a trivial affair; but if it is to be a serious affair, we shall have to draw upon all three, and particularly upon the third. It will be absolutely impossible to continue running the luxury-producing industries or the industries which produce superfluities at the rate which is possible in times of peace. If the government needs the man power which has been engaged in producing luxuries and superfluities, individuals must perforce cut down their consumption of such things. There is no alternative.

Enforced economy. It will not always be necessary, however, for the government by authority directly to forbid us to consume these things. This enforced economy will come about in other ways. The government must have money with which to pay its soldiers and sailors and to buy its munitions and supplies. We citizens of the Republic shall be called upon to supply the government with this money. The money will be taken either in the form of taxation or in the form of voluntary loans.

This, in short, is exactly what we are called upon to do by any system of war finance, whether it be the slacker's system or the patriot's system. Under the slacker's system it is proposed that we shall not make a strenuous effort to pay a large proportion of the war's expenses as we go along, but that the government shall borrow the money in order to avoid disturbing us who stay at home, and in order that the young fellows who go to the front may help pay for the war after they return home — if they do return home. The patriot's system is the proposal that we make strenuous efforts to pay as large a proportion as possible of the war's expenses as we go along, in order that we who stay at home may bear at least

a reasonable fraction of the burden which will be borne by those who go to the front, and not ask those who return home, having borne the real burden of the war, then to help pay back to us the money which we loaned to the government.

Characteristic fallacies. It is necessary, however, to clear away certain confusions which arise. The sources of this confusion are mainly embodied in the following statements: (1) Excessive taxation upon consumption will cause popular resentment. (2) Excessive taxes on industry will disarrange business, dampen enthusiasm, and restrict the spirit of enterprise at the very time when the opposite is needed. (3) Excessive taxes on incomes will deplete the surplus available for investments and interfere with the placing of the enormous loans which will be necessary in any event. (4) Excessive taxes on wealth will cause a serious diminution of the incomes which are at present largely drawn upon for the support of educational and philanthropic enterprises. (5) Excessive taxation at the outset of the war will reduce the elasticity available for the increasing demands that are soon to come.

As to the first of these objections, it is political rather than economic. Such a tax as is proposed will cause popular resentment only on condition that the people are crudely ignorant or unpatriotic, — that they are ignorant enough to imagine that the expenses of the war can be paid out of nothing or unpatriotic enough to be unwilling to bear the necessary burdens of the war. Even though it should cause popular resentment, it would not affect in one way or another the economic wisdom of such a policy. It is one thing to say that a policy is economically sound; it is quite a different thing to say that the people know enough about economics to understand its soundness. An autocrat who was trying to determine just how much his people would stand might well consider this question. In a democracy, however, the people need not stop to ask themselves how much they themselves will stand, or whether their own voluntary acts would cause resentment in themselves.

As to the second proposition, it is only necessary to point out that a great war, absorbing several millions of men of productive age either in the actual fighting or in the production of supplies for those who do the fighting, cannot possibly be carried on without a good deal of disarrangement of business. Moreover, there will be the same disarrangement of business whether we turn our money over to the government voluntarily, and thus voluntarily cut down our ability to purchase supplies for private consumption, or whether we turn the same amount of money over to the government in the form of taxes. As to the suggestion that heavy taxes will dampen enthusiasm and restrict the spirit of enterprise, that is a question of national psychology. It is hardly probable that citizens will restrict enterprise and have their enthusiasm dampened by taxes the reason for which they understand and approve. In fact, reasonably heavy taxes, for a purpose which they understand and approve, will probably spur them on to greater effort and enterprise, — will cause them to work longer hours and take shorter vacations in order to be able to pay them.

The third proposition is absurd. The money which is raised by taxation will not have to be raised by loans. The only possible way in which heavy taxes can interfere with the placing of enormous loans is by making the enormous loans unnecessary. Even with the proposed tax, loans will be necessary, but the less there is raised by taxation, obviously the more there must be raised by loans.

The fourth proposition has some merit, but it may well be asked whether, in a time of great national crisis, even philanthropic work which is not connected with the war should not be somewhat curtailed. A great deal depends upon how desperate the crisis is. All needless luxuries and every form of consumption except those which are indispensable should of course be cut off first. If this is done, most of the philanthropic work can still be carried on.

The fifth proposition can mean nothing more than that if we

tax ourselves to the limit at the start, we cannot later on increase taxes by as large a percentage as we could if we taxed ourselves lightly at the start. True enough; but it would not be necessary.

One of the naïve objections to the policy of paying a large proportion of the expenses of the war by taxes is that when expenditures approach the gigantic sums of present-day warfare such a tax policy would require more than the total surplus of social income. If by social income is meant money income, it will apply to loans as well as to taxes. The people cannot turn over to the government, either by loans or by taxes, more money than they have or can lay their hands upon. They have just as much money to pay to the government in the form of taxes as they have in the form of loans. The possibilities are exactly equal in either case. It is only a question as to which is the better policy or the better method of getting that money into the government treasury.

If, however, by social income is meant the products of industry and enterprise, the proposition becomes an absurdity. No nation can put into a war more than its total surplus social income; that is, more than it can produce over and above what is necessary to maintain the life of the people. That would be like saying that it is necessary for a country to put into the war more than its total man power.

The real cost of the war cannot be postponed. Another basic and indisputable fact which we should bear in mind is that the expenses of the war, measured in productive power and goods, or measured as all costs must ultimately be measured, namely, in energy expended, will actually be paid as we go along, whatever our financial policy. Soldiers cannot use guns and ammunition, nor consume rations, which are to be produced in the future. Everything that is actually used in the war will be produced before it is used; the cost, in terms of energy, will have been paid. In terms of real income, as distinct from money income, the war will actually be supported by current income; that is, out of the products of current industry.

The only question before us is, Where and how will the government get the money with which to pay for these things? It can raise it largely by taxation or largely by loans; in any case it will have to use a combination of both methods. The patriotic theory is that it should raise as much as possible by taxation and borrow only as a supplementary measure. It would take some time to get the taxing machinery in operation, and the money which it puts into the treasury would come in gradually. At the beginning of a war a large sum must be had at once. The only possible way to raise that initial sum is by borrowing. The slacker's theory is that the war should be financed as far as possible by loans, — that taxes should be increased only in order to pay the necessary interest on these loans and such other necessary expenses as it seems expedient to pay out of the proceeds of the loans.

Therefore the real question, stripped of all verbiage, is simply this, Shall those who stay at home pay for a war as far as possible as they go along, or shall they ask the government to borrow the money in order that they may not be too much disturbed or disarranged, and that the others who go to the front and do the fighting may help to pay for it after they return home — if they do return home?

Keeping money in circulation. It seems to be assumed, on the other hand, that money possesses some inherent power of production instead of being simply a medium of exchange.

There is a story of a little girl who decided to spend her missionary money for ice cream in order that the ice-cream man might have money to give to the missionary cause. There are men who try to persuade us that we must do the same thing in order to raise money for a war. They tell us that unless we continue spending our money freely for unnecessary things, the sellers of these unnecessary things will not be able to buy liberty bonds or to pay war taxes. We are told by others that money must be kept in circulation; otherwise our prosperity will be destroyed, and without prosperity we cannot finance a war.

Both these arguments attribute to money a productive power which it does not possess. To spend money for unnecessary things is to hire men to produce them. As fast as these men can be used in the industries made necessary by a war they are needed there. To keep them in the unnecessary industries is to interfere with the expansion of the necessary industries. Therefore it is pretty clear that during the continuance of a war, while men are badly needed in the necessary industries, it will be uneconomical and even criminal for private individuals to continue to spend money for unnecessary things.

But, granting that it is important to keep money circulating, something depends upon the channels in which it circulates. The dollar which I spend for an unnecessary thing circulates, it is true; but it is equally true that it circulates if I give it to the government, the Red Cross, or some other agency directly connected with the war, to be spent for some necessary thing. So far as mere circulation is concerned there is no appreciable difference between the two cases. But something else is involved besides mere circulation. The productive power which produces the unnecessary thing is not so well employed, from the standpoint of national economy, as the productive power which produces the necessary thing.

Granting also that it is important to give employment to men, something depends upon what they are employed to do. To spend a dollar on an unnecessary thing does, it is true, give employment to labor; but it is equally true that the same dollar spent for a necessary thing would employ the same amount of labor. The only question is whether it is better to have the labor employed in producing necessary things or unnecessary things.

If "Business as usual" merely means that we should go on doing precisely the same things in time of war as in time of peace, it is a palpable absurdity. If it means that everybody is to keep as busy as ever, or much busier than ever, it is good advice so far as it goes. What we really need to consider is,

What shall we keep ourselves and others busy doing? Shall we keep ourselves and them busy producing unnecessary things, or shall we do what we can to keep ourselves and them busy doing the necessary things? Obviously the latter. "Busier than ever" is a much better motto than "Business as usual."

The only way we can possibly keep everybody doing the necessary things in war time is, first, to do something ourselves which is necessary, and, second, to spend all our money for necessary things. If we have more money to spend than is sufficient to purchase necessary things for our own consumption, we can either spend the surplus for tools of production in some necessary industry (that is, we can invest it) or we can turn it over to the government, the Red Cross, or some other public agency. This agency can then spend it for much-needed things.

By all means, therefore, let us keep money circulating in war time, not that this in itself means much, but because it gives direction to the real productive energy of the country. But let us see to it that every dollar which we put into circulation is put where it will do the most good, — where it will direct the productive energy of the country into the necessary rather than into the unnecessary industries.

PART SEVEN

REFORM

Which has to do with various plans for the reorganization of industrial society

CHAPTER XLV

COMMUNISM

Compulsion versus freedom. The schemes for the improvement of social conditions fall into two general classes: first, those which rely upon the compulsory power either of a benevolent despot or of the mass over the individual; and, second, those which rely upon voluntary work by individuals under the principle of free contract. Among those which rely upon the authority of the mass or group over the individual, communism is the most extreme. It is sometimes called coöperation, but it is compulsory coöperation as distinguished from voluntary coöperation. The compulsion is made complete by the fact that the community, or the group, owns all the property and the individual owns none. All the processes of production and distribution are carried on by the community as a whole rather than by individual initiative and voluntary agreements among individuals.

Meaning of communism. Communism may therefore be defined as a type of social organization in which all wealth, including both producers' goods and consumers' goods, is owned and controlled by the community. It differs from socialism in that the latter proposes that the community shall own and operate only producers' goods, leaving the consumers' goods to be owned and enjoyed by individuals. A completely communistic society, for example, would own the dwelling houses and even the food and clothing, but would distribute these to the individual members very much as they are now distributed within the small group which we call the family. From a certain point of view we might say that the ideal family of to-day is a small communistic group in which all property is held in

common and enjoyed in common rather than separately by the individual members of the family.

Relation to anarchism. Theoretically, communism would be at the opposite end of the scale from anarchism, which is an absence of all government, —at least the absence of all compulsory government. In actual fact, however, it is not always easy to distinguish between a communist and an anarchist. As a matter of fact, there is a considerable group of individuals who call themselves communist-anarchists; that is, they are opposed to any kind of government which resembles those with which we are now acquainted. They would substitute small communistic groups, each one working more or less independently of the others, and make such voluntary arrangements for exchange of products as they might find to their mutual advantage. In so far as they would oppose all compulsion, they would be called anarchists; in so far as they would have all wealth owned in common, at least within small groups, they would be called communists. Unless, however, the small group could exercise some compulsory control over the property of the group, it would be anarchism rather than communism. If the group did exercise orderly control over its own property to the exclusion of individuals and of rival groups, it would be compelled to exercise compulsion and would therefore, to that extent, cease to be anarchistic and become purely communistic.

Utopias. Naturally enough, communism has never been tried on a large scale. It has been advocated by many philosophers, both ancient and modern. Many pictures have been drawn of ideal societies in which communism was the outstanding feature. Plato, in his "Republic," pictured such an ideal commonwealth; not only was all wealth to be held in common, but wives and children likewise. Defective children, or children who seemed likely to be a burden rather than a help to the State, were to be disposed of in early infancy. Sir Thomas More, in his "Utopia," presented another picture of an ideal

society based upon communism. In order to give an impression of reality he pictured some travelers in South America who had discovered a new country, in which communism prevailed. Francis Bacon gave us a somewhat fragmentary picture of his ideal of society in his "New Atlantis." Tommaso Campanella, in "The City of the Sun," and various other writers, have kept alive the ideal of a communistic society. In more recent times we have such books as "News from Nowhere," by William Morris, "The Coöperative Commonwealth in its Outlines," by Laurence Gronlund, and "Looking Backward," by Edward Bellamy. This is a list of distinguished writers, and their books make attractive reading. They show pretty clearly how persistently the world has dreamed of social conditions in which there should be no rivalry of interests, no quarreling and bickerings over questions of property, — of mine and thine.

It is not very difficult to show where these pictures are defective and how impractical such schemes of social organization are. The world at large, or at least a great majority of the people of the world, has put very little confidence in these proposals; but probably no generation has been without a certain number of spirits who have retained their belief in those peculiar ideals of justice and economy which these Utopian works have set forth.

Experiments. The primitive Christians. Nor have actual experiments been wanting. The primitive Christian Church is frequently referred to as an example of communism. One or two passages in The Acts of the Apostles indicate that the first Christians, at least, maintained a communistic fund for the maintenance of impecunious members. For a short time they appear to have put practically all of their possessions into a common fund. It will also be noticed that they not only put their possessions into a common fund, but they stopped working and remained together in one place, awaiting the second coming of the Lord. This makes it appear as though

communism were not with them an ideal scheme of social organization but merely a convenient arrangement by means of which they could live while preparing for the end of the world and their sudden translation to heaven.

The Spartans. The Spartan commonwealth is likewise referred to frequently as a communistic society. According to the account given in Plutarch's "Life of Lycurgus," there were many communistic features about the life of the Spartans. It appears to have been the communism of a military camp, however, for the Spartans themselves were only a small clan, or caste, ruling over a much larger population of subject people. In order that they might be strong in a military sense, and hold the masses of the people in subjection, they organized themselves very much as a military camp has always been organized. There was no communism whatever for the mass of the people. It extended only to the small aristocratic and ruling class called Spartans.

The monasteries. Most of the monasteries of the Middle Ages were organized on a communistic basis. They also practiced celibacy, showing that they did not regard communism as the ideal basis of a continuing human society. The whole monastic life was organized for the purpose of promoting spirituality rather than for the purpose of reforming human society.

The Taborites. Certain extreme sects among the early Protestants attempted some kind of communistic life without celibacy, but never made much of a success. Conspicuous among these were the Taborites, an extreme faction of the followers of John Huss, the Bohemian reformer. They withdrew from the city of Prague and started a community on a hill to which they gave the name *Mount Tabor.* They hence became known as the Taborites. So long as they were thoroughly united by their religious sentiments they worked very successfully, not only in productive industry but even in war, for the great Austrian Empire sent army after army against

them. They defeated the imperial armies because of the superiority of their organization. But eventually dissensions arose among them; they were divided and overthrown, and their community was broken up.

American experiments. America has been a fruitful field for the trying out of all sorts of experiments. Many of the first colonists came here because they were inspired by religious sentiments. They founded colonies where their religious ideas could flourish. This continent presented a virgin field where people with peculiar ideals of religious organization or of social economy could come and put their ideals to the test.

The outline on the following page gives a rough classification of the more important of these experiments. There were many not included in this list, which were either unimportant as to numbers or so short-lived as to make them unworthy of mention. It will be noticed that the long-lived communities were all religious in their nature. Of the nonreligious communities only one, namely, the Icarians, lasted a single generation, whereas several of the religious communities have lasted half a century, and one group of communities, namely, the Shakers, has several colonies that have survived for more than a century.

Religious communities. Most of the religious communities, it will be noticed, are of foreign origin, and most of these are of German origin. The Shakers are placed among those of American origin. As a religious sect the Shakers originated in England, but they made their experiments in communism in this country. They have established numerous colonies from Maine to Kentucky. They are celibates, and therefore could have no continuing existence unless they continued to make converts. This they have failed to do in recent years, and consequently the Shaker communities are dying out as the old people drop away.

The Perfectionists originated in Vermont under the leadership of Mr. John Humphrey Noyes. They afterwards moved

- AMERICAN COMMUNISTIC SOCIETIES[1]
  - Religious
    - Of American origin
      - The Shakers (numerous colonies), Maine to Kentucky, 1787
      - The Perfectionists of Oneida, N. Y., 1848–1879
      - Zion City, Ill., 1890–96
      - Jemima Wilkinson's New Jerusalem, N. Y., 1786–1820
      - Celesta, Pa., 1852–1864
      - Salem-on-Erie, N. Y., 1867–
      - The Woman's Commonwealth, Texas and Washington, D. C., 1880–
      - The Lord's Farm, N. J., 1877
      - Shalam, or the Children's Land, N. M., 1884–1901
      - Estero, Fla., 1904–
      - The Christian Commonwealth, Ga., 1896–
      - The House of David, Mich. (?)
    - Of foreign origin
      - Ephrata, Pa., 1732–
      - The Harmonists, Pa., 1803–
      - The Separatists of Zoar, Ohio, 1819–1898
      - The Amana Society, Iowa, 1843–
      - The Bishop Hill Colony, Ill., 1846–1862
      - The Bruederhof Communities, S. Dak., 1862–
      - The Waldensian Colonies, N. C. and Texas, 1893–
      - St. Nazianz Colony, Wis., 1854
  - Non-religious
    - Owenistic
      - New Harmony, Ind., 1825–1827
      - Yellow Springs, Ohio, 1824
      - Numerous others
    - Fourieristic
      - Brook Farm, Mass., 1841–1847
      - Fruitlands, Mass., 1843
      - Hopedale, Mass., 1841–1858
      - North American Phalanx, N. J., 1843–1856
      - Wisconsin Phalanx, Wis., 1844–1850
      - Northampton Association, Mass., 1842–1846
      - Numerous others
    - The Icarians
      - Nauvoo, Ill., 1849–1866
      - Cheltenham, Mo., 1858–1864
      - Icaria, Iowa, 1860–1895
    - Independent
      - Skaneateles Community, N. Y., 1844–1846
      - Polish Colony, Anaheim, Cal., 1876–1878
      - Topolobampo, Mexico, 1886–1901
      - The Ruskin Commonwealth, Ga., 1896–1901
      - The Coöperative Brotherhood, Wash., 1898–
      - Equality Colony, Wash., 1897–
      - The Straight Edgers, N. Y., 1899–
      - The Helicon Home, 1906–1907

[1] This outline is based on "American Communities," by W. A. Hinds (Chicago, 1908).

to Oneida, New York. They have given up communism and have organized themselves in the form of a joint-stock society and are still prosperous and doing a thriving business.

A multitude of other experiments of a more or less religious nature have been carried out by faith healers, adventists, and other people of rather extreme religious views.

Of the religious communities of foreign origin, that at Ephrata, Pennsylvania, was the first to be organized on a durable basis in this country. Like the Shakers, they were celibates and were therefore doomed to ultimate extinction.

One of the most successful of all these experiments was started in western Pennsylvania by some German pietists among the followers of one Georg Rapp, from whom they were given the name of Rappists. They afterwards moved to Indiana, where they sojourned for a time at New Harmony in the southwestern corner of the state. After a few years they sold out and moved back to Pennsylvania. Their colony, known as Economy, was a place for sightseers for many years.

The Separatists of Zoar and the Amana Society were somewhat similar in their origin and in their subsequent history. They did not practice celibacy. They prospered amazingly and presented a very attractive life as seen by visitors from the outside. They were animated by intense religious enthusiasm, and devotion to their own leaders. The Separatists of Zoar, however, gave up communism in 1898, largely because the younger generation had lost something of the religious zeal of the older generations, and decided that they preferred the individualistic type of life to the communistic. The Amana Society is still flourishing, and the people are apparently satisfied.

The Bishop Hill Colony in Illinois was a Swedish colony; its character and organization resembled most of the others. When they lost their intense religious zeal, they likewise lost their enthusiasm for the communistic type of life and gave it up.

A series of communistic societies is still flourishing in South Dakota. They are known as the Brotherhood Societies.

Several communities of North Italian Protestants have flourished in the South, particularly in Valdese, North Carolina, and near Gainesville, Texas.

Nonreligious communities. In 1822 Robert Owen, a great English philanthropist and a firm believer in what was then called socialism, came to America for the purpose of establishing an ideal community. He delivered many addresses and created much enthusiasm. In looking about for a location he found that the Harmonists, who were then living in New Harmony, Indiana, were desirous of selling out and moving back to Pennsylvania. He bought all their real estate and proceeded to establish a colony of his own. He was a man of great ability, who had made a fortune of his own, which he devoted liberally to the propagation of his ideas. His colony, however, was made up of idealists who were more in the habit of talking about their theories of society than of working to produce wealth; it was a good illustration of the inability of any community to live on talk. It lasted a little over two years. Numerous other experiments of the same kind were tried, none of which lasted for a single year. One at Yellow Springs, Ohio, lasted for several months.

About 1841 the works of a French communist, Fourier, were translated and published in this country. They created great enthusiasm, and a large number of experiments were made. The most notable of these was Brook Farm, Massachusetts, which was started independently but afterward adopted the plan of Fourier. This experiment was notable mainly because of the great names in its list of members. Some of the most distinguished men and women of that day, in letters and in scholarship, joined the Brook Farm community. The most successful of the Fourier experiments, however, was the North American Phalanx in New Jersey. It lasted for thirteen years. An experiment at Hopedale, Massachusetts, was only partially communistic; it lasted seventeen years and then became a joint-stock association.

As indicated above, the most successful of all the nonreligious communities in this country was the Icarian community in Iowa. They were followers of Étienne Cabet, a French communist, who wrote a very attractive book entitled "A Voyage in Icaria." It awoke the slumbering idealism of many French people who desired to form a commonwealth after the description of the life of the Icarians. Cabet led his followers to this country and landed in New Orleans, hoping to establish them in northeastern Texas. The land proved to be inaccessible and the climate not very agreeable. They returned to New Orleans discouraged, but learned that the Mormons had recently been driven out of Nauvoo, Illinois. They proceeded by boat to Nauvoo and established themselves, finding plenty of vacant houses and factory buildings. Here they prospered for a number of years, but they wished to find a situation where they could be more to themselves, and a tract of land was bought in southwestern Iowa, not very far from the present town of Corning. There they lived under the communistic system until 1895, when they gave up communism and came over to an individualistic régime.

A large number of other societies have been established, by the followers both of Robert Owen and of Fourier, and in recent years by the admirers of Laurence Gronlund and Edward Bellamy.

Results. It may seem as though the experiences of these numerous communistic societies tended to throw discredit upon all communistic ideals. The advocates of communism, however, insist that the principles of communism are still sound, even though a thousand communities fail. To an impartial observer it looks as though communism might work very well if people were built on a communistic plan. If they have a passion for communism, or a powerful religious emotion which will overcome their individualistic and particularistic tendencies, they may live together peaceably under communism. Unless they are inspired with religious zeal or a genuine passion for

communism, it seems as though the natural individuality, not to say the contrariness, of human nature would continue to break up all communistic societies in the future as it has in the past.

But why, it may be asked, will not communism work in a large national group as it now works in a small family group? It does not seem to work particularly well in *some* families. In those few abnormal cases where the members of the family have no particular affection for one another, the question of the division of the family funds is a difficult one. If the father is selfish and cares nothing for the others, he becomes an autocrat and spends all or the greater part of his income upon himself. If the others feel the same way toward him and one another, they quarrel among themselves. But in a normal case, where an intense affection for one another prevails, there is no quarreling and everything is shared in common.

If it were possible for the members of a large national group to feel toward one another as the members of a normal family feel, communism or almost any other system might work well. But the average man's capacity for affection is limited. It would take one with a genius for friendship to feel a warm affection for even a hundred separate individuals, to say nothing of a hundred million. It would be practically impossible for any of us to feel toward each and every one of a hundred million people, only a few of whom we had ever seen, precisely as we do toward our own brothers and sisters, fathers and mothers, and other very near relatives. This is sufficient reason why communism cannot be made to work well.

CHAPTER XLVI

SOCIALISM

Socialism and communism have shifted meanings. The term *socialism* has a variety of meanings, though there are certain elements common to every definition. During the last seventy-five years the meanings attached to socialism and communism have been shifted. That which is now known as socialism was formerly known as communism. Karl Marx, who is regarded as the great apostle of modern socialism, called himself a communist. On the other hand, *socialism* was applied to general schemes for social amelioration which did not involve any fundamental change in the organization of society. Communism, however, fell into disrepute, and its followers discarded the name and began calling themselves socialists.

There is a tendency on the part of partisans of any program or movement to define their program in the most favorable terms possible. This applies to socialists as well as to other propagandists. Sometimes this tendency leads to a definition of socialism which does not define, but which includes the opponents as well as the proponents of socialism. When it is said, for example, that socialism teaches the doctrine that only he who produces shall consume, it may be replied, "So also does individualism," and practically every other ism that has anything to do with the production and distribution of wealth. When it is said that socialism teaches the doctrine of equality of opportunity, it may be replied, "So also does individualism," and all the other isms.

The difference between a socialist and a nonsocialist. In order to define socialism we must find something which will completely distinguish the socialist from the nonsocialist. The

only definition that will do this is the following: A socialist is one who believes that the community, the public, or the government should own and operate the means of production, leaving to individuals the ownership of most articles of consumption. By the means of production are meant practically all that is included under the names *land* and *capital*,— farms, factories, railroads, mercantile houses, and office buildings would all be included; under the program of socialism all these things would be owned and operated by the community, the public, or the government. This would mean that almost every individual would be in the employ of the government in one way or another. Since there would be no private enterprise, no one could start a farm, a factory, a store, or any business enterprise of his own. Since no one could start any such enterprise, no one could be employed by a private employer. Since no one could be either in his own employ or in the employ of any private organization, almost everyone would have to be in the employ of the government.

There is some difference of opinion among socialists as to how far this principle of government ownership and operation should extend. Some are willing to stop with trusts and monopolies. This, however, is populism rather than socialism. It is based not on a theory of capital but on a theory of monopoly. Many people who favor the private ownership of capital are opposed to monopoly and believe that the best way to curb monopoly is to turn all monopolistic enterprises over to the state. Such a person might utterly reject all socialistic theories respecting capital. Moreover, every thoroughgoing socialist really bases his conclusions on his theory of capital. The work of Karl Marx, on "Capital," has been called the Bible of the modern socialist. This book pays very little attention to the question of monopoly; it consists almost entirely of an analysis of capital and capitalistic production. From Marx's point of view it is not monopolized capital, but capital as such, that gives its owner the power to exploit and defraud other

people. The capital belonging to a farmer as well as that belonging to a great trust, to a small manufacturer as well as to a large manufacturer, to the driver of a jitney bus as well as to a street-car company, is to be owned and operated by the public.

Socialism is not populism. On the other hand, the slogan "Let the nation own the trusts" has nothing to do with capital as such. Such a program is based entirely on a theory of monopoly, which is the essence of populism rather than of socialism. Those who hold to this doctrine may quite consistently hold to the idea that capital which is not monopolized is a help rather than a hindrance to labor, that he who accumulates capital by consuming less than his income is benefiting rather than injuring labor, and that therefore everybody ought to be encouraged to accumulate capital and invest it in productive enterprises. From this point of view the individual who has accumulated capital and invested it in a productive enterprise has not only increased the productivity of the community but is entitled to some reward for that service which he has performed. This reward would be called interest. The populist, therefore, would approve of the receipt of interest on the part of the owner of unmonopolized capital.

All the great authoritative books on socialism are fundamentally opposed to interest or to anyone's receiving any income in the form of interest. If labor is the only producer of wealth, the saver and accumulator is not a producer and is therefore not entitled to any share in the product. Since interest is the share which goes to the accumulator and investor, it cannot be justified under the socialistic philosophy.

Difference between a socialist and a liberalist. The definition of a socialist as one who believes in the common, public, or government ownership of all the means of production separates the socialist not only from the populist and the communist but from the liberalist as well. Moreover, this is the only definition which will at all distinguish the socialist from the

liberalist. The liberalist is quite as desirous of economic justice and of equality of opportunity as the socialist is, but he believes that the liberalistic program is better adapted to the securing of those ends than the socialistic program. The liberalistic program permits the private ownership of capital, and it also permits the receipt of interest as a private reward, on the ground that the accumulation of capital is a productive service, — not that it is philanthropic, but that it is useful to society.

In order to becloud the issue it is sometimes stated that the socialist believes that men should be paid for doing things and the liberalist that men should be paid for owning things. The liberalist does not believe that men should be paid for owning things, unless the ownership is a symptom of their having done something which was useful. If two men, A and B, have been doing equally good work with their hands and their heads, and have earned equal incomes, they should be paid the same, according to the liberalist as well as the socialist. If, however, A consumes all his income, but B invests a part of his in the tools of production, the liberalist believes that B has done better than A. If everybody did as A does, the nation's stock of tools would never increase; if everybody did as B does, the nation's stock of tools would increase rapidly. The more citizens it has of the B type, the more prosperous will the nation become; the more it has of the A type, the less prosperous it will become. It is very important that men should be encouraged to join the ranks of the B's rather than of the A's. The liberalist therefore holds that there should be some inducement to men to do what B has done; namely, to invest a part of their income rather than to consume it.

In the smartness of debate one might still say that B was thereafter being paid for owning something, whereas A was paid only for doing something; but as a matter of fact that which B appears to be paid for owning is only a deferred payment for that which he did before. When he refrained from using up his income in riotous living and devoted it to a useful

purpose he postponed the day of his enjoyment of his income. It is virtually, therefore, deferred payment for his work. The money which he received for his work was not final payment; the final reward of every individual is that which he consumes. When B decided to defer consumption, he was really deferring the receipt of his wages.

There is no other definition of socialist or socialism which will separate the socialist from the nonsocialist, or which will particularly separate him from the liberalist. The term *liberalist* is justified because the liberalist believes that, as far as possible, each individual should be at liberty to start his own enterprise if he is so disposed or to work for someone else if he prefers, — that he should be at liberty to work for private individuals or to work for the government, according as he can make the most satisfactory voluntary agreements. In short, the liberalist is willing to trust men with the power of free contract, whereas the socialist relies mainly on the government's power of compulsion.

Socialism involves more use of the government's power of compulsion than liberalism does. It has been said that the power to tax is the only capital the government needs. But the power to tax is compulsion. In order to carry out a socialist program the public would have to use its power of compulsion in many ways. It would have to prohibit competition by private individuals against the state as it now forbids private individuals to compete with the post office in the carrying of first-class mail. It would have to use its taxing power to compel the payment of deficits whenever deficits occurred. The liberalist, on the other hand, proposes to reduce to a minimum the compulsion of the government over the individual. An industry which cannot be carried on without any compulsion whatsoever had probably better be left to die, unless it be one which is necessary for military protection. If an individual who desires to manufacture shoes cannot manufacture them successfully without the power of

compulsion, he should not manufacture them at all. If he can buy his raw materials on the open market and hire his labor on the open market and sell his product on the open market, making use everywhere of voluntary exchange and voluntary agreement, and can manage to make a profit out of his business, he is entitled to remain in business. It shows that he is efficient enough to assemble the various factors of production in such a way as to produce an article which is worth more than the cost of those factors of production. This is highly economical. If, in order to make a living, he had to be paid out of the public treasury, and the public had to make use of its power of taxation in order to get the wherewithal to pay his salary, there is a strong probability that the product would not be worth as much as the factors which entered into it. In that case the power to tax would have to be made use of to keep the business going; but the fact that compulsion was necessary would be proof that it ought not to be used, but that the business should die a natural death.

Where there is no free bargain and sale, — where consumers are not at liberty to turn from one producer to another and buy whatever suits them best, where the producers of raw material are not at liberty to sell to any manufacturer who will pay them the highest price, and where labor is likewise not free to bargain to its own advantage, — there is no assurance that the maximum economy will be secured.

Compulsion sometimes necessary. It is not to be inferred, however, that the liberalist is an anarchist and therefore opposed to all exercise of compulsion or governmental power. He is one who believes that a great many lines of production can be safely and successfully carried on without the use of compulsion, under voluntary agreements, free contract and sale, and individual initiative. He also quite frankly recognizes that there are many things which cannot be done in this way. For example, the forestation of certain mountain slopes would be undertaken by private enterprise only

when the enterprisers thought that it would be profitable to them. But, although it might be unprofitable when considered by itself, it might still be highly profitable when considered from the viewpoint of the nation as a whole. If the deforestation of high mountain slopes results in the overflow of streams and the destruction of valuable land along the lower watercourses, this is a matter which affects the country as a whole but might not interest the individual owners of the high slopes. If they found it profitable to cut off the timber and sell it, they would do so even though property of much greater value a few hundred miles away on the river bottoms were destroyed. Here would be a clear case where government enterprise would be superior to private enterprise. But similar reasoning would in some cases prove the superiority of international enterprise over government enterprise. It might very well happen that the high mountain slopes were within the territory of one nation, and the river bottoms in the territory of another. In that case the nation owning the high mountain slopes would have no interest in protecting the river bottoms. Nothing but an international arrangement could solve that problem.

Again, take such an enterprise as the building of lighthouses. The private individual who built a lighthouse on a rocky coast would scarcely be able to collect toll or to get payment for the utility which he was furnishing. Not having the power of compulsion, he could not force mariners to pay, nor could he tax the public at large in order to build and maintain lighthouses. The public alone has this power of compulsory collection. In any other case (and there are many of them) where it can be shown that freedom of contract will not succeed in getting an important work done or an important utility produced, the liberalist is willing to see compulsion used.

***Socialism*, like *vegetarianism*, is an exclusive term.** *Liberalism* is therefore not an exclusive term, as *socialism* seems to be. In this respect *socialism* is like *vegetarianism* and

certain other exclusive terms. One is not a vegetarian by virtue of the fact that one sometimes eats vegetable food; one is a vegetarian only when one refuses to eat anything else. A liberalist with respect to food is willing to eat any kind which seems to him to be desirable. In a similar sense, one is not a socialist by virtue of the fact that one is willing that the government should do some things; one is a socialist only when one believes that private individuals should not carry on any productive industry or own any productive capital. The liberalist is willing that industry shall be carried on in any way that seems to promise desirable results. If an individual farmer can grow corn successfully, the liberalist is willing that he shall do so and make a profit out of it; if the individual manufacturer can manufacture successfully, the liberalist is willing that he shall do so and likewise make a profit; and so on. He perhaps goes a step farther and believes that preference should be given to free and voluntary business arrangements rather than to compulsion, and that compulsion should be used only when the voluntary system fails to get desirable things done.

Criticism always easy. As to the merits of the socialistic program as compared with other programs, there will always be considerable differences of opinion. It is not difficult to point out with a great deal of particularity the evils that result from a liberalistic policy. The unfortunate condition of those people who are not in a position to contract to their own advantage is perhaps the strongest argument used by the present-day socialists. It is very easy to find many communities in which certain classes of laboring men find it impossible to get good wages by the method of voluntary agreement, whereas other people who use this method get larger incomes than are necessary or desirable. This observation, however, is not confined to labor. Anyone who is trying to sell something with which the market is oversupplied is in a more or less helpless position. When more is offered

for sale than buyers care to buy, the seller is very dependent, whereas the buyer is independent. Under the system of voluntary agreement the seller must take what he can persuade the buyer to pay, and the buyer can take his choice. If, however, you reverse the conditions, you find buyers who want to buy more than sellers are willing to sell. Then buyers are very dependent; they must take whatever they can persuade the sellers to sell, whereas sellers are independent and can take their choice.

It happens that certain kinds of labor seem almost chronically to be in this position of dependence. They always, and rightly, evoke sympathy. There are two ways, however, of correcting the difficulty. One is to substitute the system of compulsion for the system of voluntary agreement; the other is to make that kind of labor scarce and hard to find. Seeing that these unskilled laborers are now beaten under the system of voluntary agreement, it looks rather obvious to some people that something else must be substituted. But the liberalists maintain that labor is not necessarily, and not always, at a disadvantage under the system of voluntary agreement. If you can redistribute the labor supply so that there will not be too much of one kind in proportion to the other factors, then the laborers will be in a position of great independence. It is not difficult to point out instances where the laborer is independent and the capitalist dependent, — where the preservation of the capitalist's property — where even his income itself — depends on getting labor when there is not enough labor to go around. In such cases the capitalist must take whatever labor is offered, whereas the laborer can take his choice of employers. There need not be the slightest difficulty in creating such conditions for labor in general; but it will require the following of a program radically different from that of the socialist. It looks much easier merely to exercise the compulsory power of the state and cure the difficulty at one stroke. Not many difficulties, however, are permanently cured at one stroke or by the exercise of compulsion.

Why there are socialists. When the victim of a wasting sickness goes to a physician for help, he is very likely to be disappointed. The physician, if he is scientific and therefore honest, can seldom promise him a definite cure. Being a scientific man he can point out the causes which produce the illness, and say that if at some time in the past the patient had pursued different habits, he would not have become ill. This, however, is cold comfort to the sick man who is suffering intense pain. Or the physician may prescribe a course of treatment which, if rigidly followed for a period of time, will tend to remove the causes of the illness and eventually improve the patient's condition. This likewise is cold comfort to the man in pain, who wants immediate relief. Such a man is in a good frame of mind to lend a favorable ear to the "doctor" with a specific remedy who promises him a specific cure. This is why a certain type of unscientific practitioner, commonly called a quack, flourishes.

Similarly, the man who is in the grip of poverty, as well as his sympathizers, is likely to be disappointed with the program of the economist. The economist, if he is a scientific man and therefore honest, will be compelled to say that there is no immediate relief which is not likely to produce worse results in the future. Being a scientific man, he can point out the conditions which tend to induce poverty, and can prescribe policies which, if they had been pursued consistently for a number of years, would have prevented the poverty which now exists. This is cold comfort to the man who is already suffering from poverty and longing for relief. Such a man is in a condition to lend a favorable ear to the doctor with a specific remedy. The obvious and specific remedy which is commonly used is the compulsory power of the state or of the mass over the individual. This is sometimes called democratic, but there is nothing particularly democratic in compulsion. One of the most democratic things in the world is freedom of contract, — freedom on the part of the individual to pursue

his own interests so long as they happen to coincide with those of the public.

There is a close parallelism between the condition of the laborer on the oversupplied labor market and the condition of the producer of vendible commodities on an oversupplied commodity market. In the early nineties of the last century, farm products were greatly oversupplied. There had been a rapid settlement of the fertile prairies of the West and a rapid increase in the tillable area on all the farms. The result was that a great flood of agricultural products was poured upon the markets of the world, depressing prices not only in this country but in Europe as well. In that situation the farmers were in a dependent condition. They had much to sell and there were apparently few buyers, — few at least relatively to the amount of produce that was offered. The average farmer had to take what he could get. Naturally enough this situation created dissatisfaction, and demands were made by the agricultural classes of the South and West for some kind of compulsory action by the government. On the basis of free contract they were at a great disadvantage, and not unnaturally desired to use some other method, for the time being at least. Freedom, to them, frequently meant freedom to become bankrupt and to go hungry.

At the time of the present writing (1918) the conditions are reversed and the boot is on the other foot. The world is experiencing a great shortage of agricultural products. Buyers are everywhere asking for products, and there appear to be few sellers, — few at least relatively to the number of buyers and consumers. The consumers are now in a position of great dependence, but the farmers are in a position of great independence. On the basis of free contract the farmer has the advantage and the consumer the disadvantage. The farmer is not now calling for a limitation upon the right of contract. He is not demanding the substitution of compulsion for freedom. There are demands, however, on the part of consumers for government

action in the fixing of prices and the control of marketing processes. Since he is at a disadvantage in the bargaining process, the consumer feels that something else should be substituted. Freedom to buy food does not seem so very precious. Farmers, however, are inclined to protest against the substitution of compulsion for bargaining; that is, the substitution of price-fixing by the government for the policy of letting demand and supply determine the price.

There was a time in England, following the Black Death, when labor seemed to be abnormally scarce as compared with what had been known for centuries. The laborer was able to bargain to good advantage. He did not then demand anything better than free contract in the determination of wages. The demand for compulsion, however, came from the landowners and employing classes, and much severe legislation was passed fixing wages and punishing attempts on the part of laborers to bargain for higher wages.

Generally speaking, however, in the history of the greater part of the world, conditions have been such that laborers rather than employers have been at a disadvantage in bargaining. Unskilled laborers have generally been abundant. It has seldom been necessary for an employer to spend much time searching for men who were willing to work for him. The searching has been on the other side. Labor being thus almost permanently oversupplied, it has led to a great many demands for the substitution of compulsion for free bargaining as a means of fixing wages.

Now it is not necessary to have a scourge in order to thin out the ranks of unskilled labor. The case of the Black Death was cited merely because governments have generally been so stupid as to do nothing about it, and here was one case where a scourge proved to be in some respects more intelligent and generous than governments have been. It is quite possible, by the use of a little intelligence and progressiveness, to create conditions under which the demand for labor

will continually expand and the supply of unskilled labor continually contract, putting the unskilled labor in a continually improving situation with respect to the bargaining process, making it continually easier for the laborer to find a job at remunerative wages but, as a necessary consequence, continually more difficult for the employer to find unskilled labor at low wages. By this process the system of free contract could be preserved and labor could be made independent and prosperous at the same time.

If this were done, in all probability the demand for compulsion would again come from the employing classes. Finding themselves at a disadvantage in the bargaining process, they would seek government aid in the fixation of wages by compulsion. That evil, however, could be combated when it arose.

Libertarians and compulsorians. The reformers of our system of distribution may therefore be grouped into two main classes, — the compulsorians and the libertarians. The compulsorians are those who wish to substitute some form of compulsion for the system of free trade. The libertarians are those who prefer to keep the system of free and voluntary agreement rather than resort to compulsion. They rely upon free initiative, not only in getting things produced but in determining the shares in distribution. Further, the compulsorians may be subdivided into two classes: first, those who believe in a benevolent despotism, such as that which produced most admirable results in the Canal Zone during the building of the Panama Canal, or that which prevails to a less degree in the German Empire; and, second, those who believe in the authority of the mass over the individual, where the will of the mass is indicated by majority votes and by the election of popular individuals as directors and administrators. The libertarians are likewise divided into groups: first, those who believe that there is a logical dividing line between the sphere of government action which must always be compulsory and the sphere

of private enterprise which must always be voluntary and on a free contractual basis; second, the extreme anarchists who do not believe in force or compulsion of any kind, not even the exercise of police power, much less of military power.

The real conflict between compulsorians and libertarians is between the two intermediate groups, namely, those who believe in the compulsion of a democratic mass over the individual and those who believe in a fairly definite dividing line between the sphere of compulsion and the sphere of freedom; in other words, it is the conflict between socialism and liberalism as we find it in the world to-day.

CHAPTER XLVII

ANARCHISM

Anarchism and socialism. In some respects anarchism is the diametric opposite of socialism; in other respects it is somewhat similar to socialism. They represent opposite tendencies in that the socialist proposes to enlarge the power and function either of the state or of some kind of public organization, whereas the anarchist proposes to eliminate all authority, or all control of one person by another. Such organization as shall exist under anarchism shall be purely voluntary. Voluntary groups may be formed as large or as small as the individual members care to have them. The relations of one group to another shall likewise be on a purely voluntary or contractual basis. There shall be no state with a military arm or with police power of any kind.

Anarchism and socialism resemble each other in that both revolt, either in part or in whole, against any system which gives one man power or authority over another. Many of the advocates of socialism object to private capital primarily on the ground that it gives one man, namely, the capitalist employer, power and authority over another man, the propertyless laborer. The anarchist says, regarding this opinion: It is good so far as it goes. We anarchists are likewise opposed to giving one man power or authority over another. The private ownership of capital does what the socialist says it does, and that is wrong. We are therefore opposed to the private ownership of capital. But capital is not the only source of authority. The government likewise gives one man power or authority over another; the capitalist employer does not in fact have as much power or authority as a judge or a policeman,

a governor or a president. The socialist, therefore, is only a halfway anarchist. He is opposed to one source of power and authority; we are opposed to both sources.

May government eventually become unnecessary? The underlying philosophy of anarchism is of various kinds. There is one system of thought which is frequently but improperly called anarchistic. It is held by certain people that government and compulsion are made necessary by the imperfections in human nature, — that if we were so highly developed morally that each individual would voluntarily do what he ought to do or what was in the public interest, then it would not be necessary to use authority or compulsion on anybody; but since there are individuals with undeveloped moral natures, — individuals who do not voluntarily and automatically respond to the needs of society, — it is therefore necessary that they be compelled to do what they ought to do, or (which is the same thing) what they would do if they were fully developed.

In the closing paragraphs of his monumental work on sociology, which was in turn the culmination of his great system of synthetic philosophy, Herbert Spencer[1] sums up his ideas as to the ultimate end of all social progress in the following eloquent words:

> But if the process of evolution which, unceasing throughout past time, has brought life to its present height, continues throughout the future, as we cannot but anticipate, then, amid all the rhythmical changes in each society, amid all the lives and deaths of nations, amid all the supplantings of race by race, there will go on that adaptation of human nature to the social state which began when savages first gathered together into hordes for mutual defence — an adaptation finally complete. . . .
>
> On the one hand, by continual repression of aggressive instincts and exercise of feelings which prompt ministration to public welfare, and on the other hand by the lapse of restraints, gradually becoming less necessary, there must be produced a kind of man so constituted that while fulfilling his own desires he fulfils also the social needs. . . .

[1] The Principles of Sociology, second edition, Vol. III, pp. 598–601. London, 1897.

> Long studies . . . have not caused me to recede from the belief expressed nearly fifty years ago that — "the ultimate man will be one whose private requirements coincide with the public ones. He will be that manner of man who, in spontaneously fulfilling his own nature, incidentally performs the functions of a social unit; and yet is only enabled so to fulfil his own nature by all the others doing the like."

Whether this delectable state is to be reached by the slow and somewhat cruel process of evolution, as Spencer believes, or by the process of moral reform and religious evangelism may be open to speculation. There are probably not many people who would disagree with the general conclusion that government would be unnecessary in either case. "If" (but this is a large *if*) human nature could be so perfected, either by the slow elimination of the unsocial and the antisocial (that is, the criminal and the immoral) or by their moral regeneration, it might very easily follow that government would ultimately become unnecessary, or at least that compulsion by governmental authority would become a thing of the past. This position, however, can hardly be called anarchistic in any real sense, for the real anarchist believes, not that government may ultimately become unnecessary, but that it is now unnecessary.

Impatience of restraint. There is another type of thought, sometimes characterized as anarchistic, which does not revolt so much against government and the use of compulsion in the form of police power as against what is called moral compulsion; that is, the setting up by society, or by people in authority, of standards which others are bound to follow. It is proposed, therefore, that we throw off the so-called shackles of conventionality and even of morality, and that everyone do that which is right in his own eyes, regardless of what may be said by other people or by institutions and organizations which pretend to tell us what we ought to do.

Is morality an invention of weaklings to curb the strong? Among the people who take this point of view, however, two diametrically opposite conclusions are reached. There is one

school represented by such writers as Kaspar Schmidt and Friedrich Nietzsche, who hold that religion and morality are the inventions of the weaklings of the world for the purpose of holding the strong in check. There is an old fable regarding the mice who found themselves oppressed by the cat. They voted unanimously that the cat should wear a bell in order that the mice might be protected. According to these writers religion and morality are merely different ways by which mice try to put the bell on the cat. They try to make it unpopular for the strong man to use his strength. They persuade him that it is immoral or irreligious, or that the vengeance of supernatural agencies will be let loose upon him if he exercises his strength to the detriment of the masses. Therefore the strong man, sometimes called the superman, should break loose from these conventionalities, should snap the cords with which the Lilliputians have bound him, and should dare to be great and independent, and impose his will on the masses if he is able to do so.

Is morality an invention of those in power to curb the masses? The other school of anarchists, and certain socialists who are anarchistic in spirit if not in program, assert that religion and morality are the cunning inventions of priests and soldiers and capitalists who hold the masses in check; that, for the average man, to be good is merely to be good for somebody else, that is, for those in power, — that to be good is to support the priest or the capitalist or the policeman or the judge or someone in authority; that to be free is to be good to one's self.

As to which of these two conclusions is the more absurd, it would be difficult to decide. They are mentioned to show to what extremes of aberration the human mind is capable of going. One doctrine would lead the strong man to do as he pleased, to impose his will upon his neighbors either by the weight of his fist or by his superior power of destruction in some other form; the other conclusion would lead the masses of

the people to sink into a state of license and violence which would destroy civilization and land us in a sort of primeval social chaos.

Are all human interests harmonious? There is, however, another system of thought which is truly anarchistic and less repulsive than either of these. This system is based on the fundamental assumption that all human interests are harmonious. In this best of all possible worlds, it is claimed, there can be no such thing as a conflict of human interests; it is in some way a reflection upon the Creator of the world to say that there could be anything but a harmony of real interests among men; it cannot possibly be true that one man's meat is another man's poison; these apparent conflicts are the creation of men and human institutions and are not inherent in the nature of man and the universe.

This underlying assumption sounds attractive, and doubtless many of us would like to believe it if we could. There are, however, so many hard facts in the way that not many of us are able to bring ourselves to the point of ignoring the very present and prevalent conflict of interests. It was shown in the chapter on Scarcity that the mere fact of a congestion of population — of too many people trying to live in one spot — creates in that spot a state of scarcity. Food enough in that particular spot cannot be produced for as many people as would like to live there. This situation in itself inevitably and necessarily produces a conflict of interests. Either some people must move to another spot or food must be brought from other spots to feed the people who are there. Either alternative will prove disagreeable to somebody. If neither of these alternatives is chosen, then there must be hunger; more than one person will be wanting each parcel of food, and that in itself is a conflict of interests. Here are certain facts of a physical nature which cannot by any effort of the will or the imagination be conjured out of existence. There is, in fact, a conflict of interests wherever two people want the same thing.

Conflict of interests makes control necessary. Wherever there is a conflict of interests, one of two things is absolutely necessary: either the individuals must have a high moral development, which will lead each one to surrender certain interests in favor of others, or there must be an umpire to decide between them and enforce his decision. This umpire, by whatever name he may be called, exercises the function of government. In fact, this umpire is government, whether it be an individual or a great organization of individuals exercising various functions, such as legislation, administration, interpretation, enforcement, and so on.

Emotional anarchism. There is another type of anarchism which can scarcely be said to have any underlying philosophy. It is based wholly on feeling and sentiment. Doubtless every human being possesses some repugnance toward being ruled, or being compelled to do that which he dislikes to do, or to leave undone that which he would like to do. A preference for one's own way shows itself rather early in the lives of children. Doubtless all of us feel bitter at times regarding some act of some governing agency or authority. Generally, however, we are able to keep these feelings under sufficient control to enable us to obey law and support the government. In other words, we generally see the necessity of government, however disagreeable it is at times to be forced to submit. Occasionally, however, an individual will react in the other way; that is, his repugnance will overcome his judgment. He has no particular philosophy, though he can always invent a reason or an excuse. A policeman, a court, or a flag, or any other evidence or symbol of government is as a red rag in his face; it causes anger, resentment, and insurgency, and nothing else. Such people are sometimes very adorable in other respects. So long as their feelings are properly soothed they may be exceedingly affectionate and loving. Those who know them personally find it difficult to reconcile their general personal qualities with their feeling against government.

Nevertheless, from any broad and philosophical point of view they are among the most dangerous members of society. They are the unadapted in a very important social and psychological sense. Psychologically they are as unfit for living under a settled, orderly government as a fish is physically unfit for living out of water. The process of evolution which, according to Spencer, would eventually produce the delectable state of society described in the above extract is steadily weeding such people out. They insist on bumping their heads against the walls of the universe, and destroying themselves along with the criminals and others who are unadapted to a settled civil life. If by the meek we mean merely the adaptable, the teachable, and the reasonable, and if by the unmeek we mean the intractable, the unteachable, the self-willed, the pig-headed, then it is probably a scientific proposition to say that the meek "shall inherit the earth," that is, survive, while the unmeek shall be exterminated by the slow but sure process of evolution. This will be the ultimate cure for this type of anarchism.

There is still another type of anarchist who is merely mean and bent on making trouble. He can always be relied upon to be on the wrong side of every question. Wherever decent, self-respecting men and women are in general agreement on any subject, he will always be found opposing them. It is true, he does not always go in for anarchism. He is found in every movement which gives him a chance to vent his general hate and spitefulness. Wherever there is a chance to denounce government, religion, law, order, morality, chastity, sobriety, or anything else that is of good report, his voice is always heard. He generally tries to get into good company by calling himself a radical, an iconoclast, or a revolutionist, knowing that excellent men and women have been called by all of these names. He, however, is none of these things; he is just plain "ornery."

Is patriotism a vice? There are various other views, some of them of an idealistic nature, which savor of anarchism and lead to absurd conclusions on practical subjects. One of these

is that patriotism is a vice. This strange doctrine is advanced on grounds of the broadest humanitarianism. We should love all men equally, it is urged, without regard to race, color, creed, or nationality. The patriot cares more for his fellow citizens than for the citizens of other countries; therefore, according to this type of anarchism, he is narrow in his views. Moreover, if he thinks more of his fellow citizens than of others, this will lead him, in case of war, to try to kill the citizens of the enemy country. Killing, it is argued, is murder. The fact that it is done as an act of war does not in the slightest degree change its character.

When a great world state exists, then, of course, it will be proper to be patriotic toward it. We may even work consistently for it. But to condemn all patriotism for lesser states would, if this condemnation were effective, merely destroy existing states, and all law and order, and land the world in chaos. Family sentiment is narrow in the same sense that national sentiment is narrow. The man who loves his wife must care more for her than for other women. This, and all other forms of family sentiment may, in a sense, make us narrow, but it does not follow that it is bad to be narrow. Again, if we are to avoid narrowness, why be humanitarians? Are not many animals also companionable and lovable? To show a preference for men is to be narrow in the sense in which we have been using that word.

CHAPTER XLVIII

THE SINGLE TAX

Meaning of the single tax. By the single tax is meant a policy under which all the public revenue is to be raised by the single tax on land value. One of the most persistent misinterpretations of the single tax is that of assuming that it means a tax to be raised on real estate rather than on land values. Land value is defined as the value of the land itself irrespective of all improvements, such as ditching, draining, fencing, the planting of trees, and the erection of buildings. In short, everything done on the land itself to improve the value of an estate is classed as an improvement and, under the single tax, would be exempt from taxation. This leaves nothing except the location value and the fertility value to be taxed.

The physiocrats, believers in the "rule of nature," believed in the *impôt unique*. The original advocates of the single tax were a group of French economists called physiocrats. It was their belief that land was the original and fundamental source of all wealth, and that the rent of land was the only real surplus wealth which the community ever produced. From their point of view, rent was due to the bounty of nature. They believed that every other tax must eventually be paid out of rent anyway, wherever it may have been laid by the government. If you tax the products of industries, there is no surplus out of which the tax can be paid; as a result you either raise their price or depress the price of the raw materials. If you tax labor, you must raise wages accordingly; if you tax enterprise, you must raise profits. Every tax, therefore, is shifted from one to another till it reaches the landowner, who alone has a surplus out of which it can be paid. The landowner cannot shift it any farther,

and, since he must ultimately pay the tax, they argued that it was better for him to pay it directly in the first place than indirectly after several shiftings from one person to another. They regarded the single tax as a good system of taxation for raising revenue, not as an engine of social reform.

The classical economist regarded rent as a peculiar income. The idea that landowners who live entirely upon the rent of land are in a peculiar sense nonproducers is by no means new. Adam Smith[1] wrote, in 1776, "As soon as the land of any country has all become private property, the landlords, like all other men, love to reap where they never sowed, and demand a rent even for its natural produce." And again, "They [the landlords] are the only one of the three orders whose revenue costs them neither labor nor care, but comes to them, as it were, of its own accord, and independent of any plan or project of their own."[2] Economists from Adam Smith down have generally agreed on this point, though they have not generally agreed that this is the great cause of poverty, nor that the abolition of ground rent would be a social panacea.

Ricardo, in developing his theory of rent, laid emphasis upon the fact that rent arises from the niggardliness rather than from the bounty of nature, thus taking a position opposed to that of the French physiocrats. This niggardliness shows itself in two ways: first, the best land is always limited in area; second, its productivity is limited. On any given area the amount of any crop which can be produced is limited; and even before that limit is reached, diminishing returns are received from successive applications of labor and capital. Because of these limitations upon the productivity of the best land, poorer and poorer land must be taken into cultivation as the demand for products increases. The fortunate possessors of the better grades of land are then in a position to demand a rent for their land.

[1] Wealth of Nations, Bk. I, Chapter VI.
[2] Ibid. Bk. I, Chapter XI.

The single tax made an engine of social reform by Henry George. It was the late Henry George, in his book entitled "Progress and Poverty," who seized upon these ideas to make the single tax an engine of social reform. He began his inquiry by pointing out that even in the midst of plenty, poverty still persisted. He stated that, though the productive power of the world had increased manyfold through mechanical improvements, nevertheless large numbers of people remained in poverty. In fact, he went so far as to insist that increasing numbers were compelled to live in conditions of increasing squalor.

The persistence of poverty the great reproach upon civilization. This phenomenon of the persistence of poverty in spite of the world's increase in productive power has been an enigma ever since the rise of mechanical industries. Various answers have been given to the puzzle. Karl Marx and his followers attributed it to the fact that the owners of capital absorb all the benefits of the increase in productive power, leaving the nonowners of capital no advantage whatsoever.

It is very easy to say — in fact, it looks like mere arithmetic to say — that, with the same rate of productiveness, if certain classes who are now receiving large incomes should not receive them, there would be more left for other people. If the incomes of capitalists and landowners were cut off, more would be left for the laborers, provided the total production remained the same. It would be equally true from an arithmetical standpoint to say that if the skilled laborers and the high-salaried people did not receive so much, more would be left for the rest, if the rate of production remained the same. In other words, if you assume a given rate of production, and then assume that the incomes of certain classes are cut off, you can demonstrate that this would leave more goods for the other classes. This, however, is not a convincing argument. If anyone performs an important function in society, and thereby makes society richer, it cannot be said that by cutting off this

person's reward for performing his function, society will be improved. By the cutting off of his reward there is the danger of killing the goose that laid the golden eggs; by so doing you may reduce his motive for labor and cause him to perform a less important function than he would if he were adequately rewarded for his effort. The real question is, therefore, whether the capitalist performs a function in society commensurate with the reward which he receives. If the answer is in the affirmative, the cutting off of his income would hardly be a help to society. The same reasoning applies to the landowner; if he performs a function commensurate with the reward which he receives, it would obviously not help matters to cut off his income. So here again the real question is whether or not the landowner performs a function commensurate with the reward which he receives.

Distinction between location value and fertility value. In the chapter on Land we saw that the two economic factors in land value were location and fertility. In so far as the value of land is based primarily on its fertility, that value may be easily destroyed and with difficulty replaced; and, in fact, the land of little fertility may, by careful and scientific farming, be greatly increased in fertility. This increase would be classed as improvement, and the increase in value would be similar to the increase which results from ditching, draining, irrigating, fencing, clearing, and other forms of improvement. Even where the land possessed original fertility, that is, where it is known as virgin soil, it may easily deteriorate under bad management or improve under good management. It is as much in the interest of society that good land be kept from deteriorating as that poor land be improved in fertility. If the owner of land is allowed the advantages of any improvements in fertility which result from his management, no one could of course consistently object to it. Again, if he is made to suffer some penalty for allowing the land to deteriorate in fertility by his bad management, it would seem equally just.

Putting these two propositions together, it seems as though the owner of the land, whether it be good or poor land, should be rewarded for any improvement resulting from his good management, and penalized for any deterioration resulting from his bad management. If the single tax were applied rigidly, and the value not only of the location but of the soil itself were taxed away, the owner would get neither reward nor penalty. That is to say, if he were taxed for the full value of his land, while the soil possessed its original fertility, he could easily "mine" the soil, as it is called; that is, he could rapidly exhaust the fertility and pocket the temporary advantage from it. Then, after the land became less valuable, the tax would have to come down, or the owner could abandon the land or turn it over to the state, whenever it became so poor as not to be worth the tax.

But if he is allowed the full value of the fertility of his soil, he has a much stronger motive for preserving or increasing its fertility. In the pursuit of this advantage, or in the warding off of the disadvantage of deterioration, he performs an important public function,—that of conserving the fertility of the soil. His reward will bear some ratio to the value of the service which he performs. To cut off his reward would not be to the advantage of the public, because the result would be that he would allow the soil to deteriorate, and this would result in a smaller production. The rest of society would suffer from this policy along with the landowner. The single tax would put the owner in the position of a tenant who had to pay the state, in the form of a tax, all that the land would rent for. Tenants are notoriously, and for excellent reasons, careless in the matter of conserving soil fertility.

In respect to location value, this argument scarcely applies. In some cases, it is true, the enterprise of the landowner has created location value. This occurs when he himself builds a road instead of asking the public to do it, or when he beautifies a spot and makes it attractive as a place for dwellers, or when he builds a trolley line or any other means of access to

his land. He may then be said to have created the location value of his land. In such cases all that we have said regarding fertility value will apply also to location value.

In most cases, however, the location value is not the creation of the individual owner but of the general public, since it is the general public, rather than the individual owner, that builds schools, libraries, and streets, maintains police systems, and brings various utilities within reach. Many notorious cases are cited of men who have bought land favorably situated and have done nothing to improve it and have even resisted taxation and all improvements. Yet, in spite of such inertia, these men have found themselves rich as the result of the rise in the location value of the land. A few such conspicuous cases furnish effective arguments in favor of the single tax.

A land tax not necessarily a single tax. The arguments for a single tax are not the same as for a mere increase of the land tax. One may favor the increase of taxation upon the location value of land without being in any sense of the word a *single* taxer. He may believe in many different taxes, such as the inheritance tax, licenses, the income tax, etc. It would be absurd to call such a man a single taxer, even though he favored a special tax on the location value of land. Again, even though one were in the strict sense of the word a single taxer, one might advocate it on purely financial grounds rather than on the grounds of social reform; that is, one might believe that all public revenues should be raised from the taxation of location values of land merely because he believed that this would be an easy way of raising revenue, and not because it would go very far toward the curing of poverty.

The financial arguments in favor of the land tax are fairly simple. Land cannot be hidden in the way that much personal property is. There may be some difficulty in appraising its value for purposes of taxation, but the difficulty is not greater than that of appraising for purposes of taxation the value of personal property, buildings, or anything else which is taxable.

Again, a tax on location values could hardly be said to have a repressive effect at all. If the tax on the products of industries tends to discourage production, this cannot be said to be true of land. Since location values are not produced by the payer of the tax, there is no production to discourage. You may tax land and still have it in undiminished quantities. As a cold-blooded financial proposition this has some merit. Even though one may take away from the landowner all its location value, the land itself still exists in undiminished quantities.

Arguments for the single tax. The argument for the single tax as an engine of social reform rests on three general propositions. In the first place, since those who receive rent because of the location of their land create nothing in return for the rent they receive, their incomes are merely subtracted from those of the rest of society. If their incomes should be taken away, this would not in any degree diminish the total productiveness of the community. By a mere process of arithmetic it is easy to show that if the incomes which they now receive were divided among the rest of the people, these other people would have larger incomes.

Is land kept out of use for speculation? In the second place, it is alleged that a great deal of land is kept out of use for speculative purposes, and that a high tax on land values would force this land into use. The validity of this argument is doubtful. The illustrations given are usually those of tracts of land found lying idle in cities and suburbs. The owners are holding them apparently in the hope of getting a higher price in the future. It is easy to jump to the conclusion that if there were no prospect of gain by so doing, the owners would at once find a use for the land or sell it to others who could use it; but this does not take into consideration the fact that there may be no immediate use to which the owner could profitably put the land.

If an individual, Jones by name, has a tract of land which is not being used, there is no reason for believing that he

would be averse to getting some income year by year while the land itself is rising in value on his hands. Thus he would get the rise of the value of the land just the same as though it were idle, and he would get, at the same time, whatever income it would bring him. There are not many men who deliberately prefer a smaller to a larger income. If he knew that by putting $1000 into even a small building, or $100,000 into a large one, he could rent the building for enough to pay the interest on what it cost him, together with insurance, deterioration, etc., and have left even a small sum in addition, he would certainly be willing to have the small additional sum. If, however, he did not see the opportunity to use or rent such a building, but, on the contrary, foresaw that he would be obliged to lose a part of the interest, insurance, or deterioration, there would be no motive for him to have it built. In that case, even if he had to pay the single tax, he would still leave the land idle. He would rather pay the single tax without additional loss than to pay it and incur an additional loss besides.

The only common cases in which the land is actually kept out of use because of speculation are where garden land is purchased and divided into building lots in advance of the demand for them. After the division has been made, the land is no longer suitable for farm land or garden tracts, because it is broken up into parcels too small to be cultivated economically. Meanwhile the public may be slow in buying the lots for building. The result is that for a number of years this land practically goes to waste.

A heavy tax on land would exempt other forms of property. A third argument for the single tax is to the effect that when a large amount of revenue is raised from a tax on land, there is no necessity for so high a tax, probably no necessity for any tax whatever, on other things. This reduction of taxation on other forms of property would serve as a stimulus to greater production. When, for instance, a farmer finds that his cattle, his crops, and his buildings are not taxed, or not taxed so

heavily, he is encouraged to develop these forms of property. If, as stated above, the taxation of location values of land enables the public to raise enough revenue from this source, and thereby to eliminate the taxes on all other things, this will tend to stimulate business and production in general. This argument is based on the repressive character of other forms of taxation than the land tax.

It is probably true that if the incomes of landowners which come to them in the form of rent or location value were cut off, more would be left to divide among others; that if land values were taxed away, a few owners would be forced to use land which is now idle; and that if a heavy tax were put on the location value of land, the taxes on other things could be greatly reduced, thereby stimulating production. The combined result of these three things would be to the profit of the nonlandowning classes. The unskilled laborers and other poor people would probably gain a fraction of this general advantage, along with all other nonlandowning classes, such as merchants, bankers, manufacturers, professional men, and skilled laborers; but that it would greatly alleviate poverty is a proposition which may be regarded as very doubtful.

Putting idle talent to work. A fourth argument, not usually brought forward by single taxers, may be added to this list. In so far as certain owners of valuable land are enabled to live on the rent which comes to them because of its location value, and to remain idle instead of doing productive work, the community loses the productive power of these men. This is more important than all the land kept out of use for speculative purposes. If such persons were deprived of their incomes and thereby forced to do productive work, the community would gain by this addition to its list of productive workers. This would make for national prosperity.

CHAPTER XLIX

CONSTRUCTIVE LIBERALISM

What the liberalist believes. A liberalist in economics is one who believes in the freedom of the individual rather than in compulsion, either by the mass or by a despot. He relies mainly but not exclusively upon individual initiative. He believes that individuals will, without compulsion and under freedom of contract, do whatever is necessary to provide for the needs of the community. He believes that it is not necessary continually to impose upon the individual the authority either of a benevolent despot or of a well-meaning majority. In somewhat extreme cases, such as can be covered by the criminal law, laws for the enforcement of contracts and other obligations, and laws for the standardization of various aspects of business, compulsion is necessary and helpful. He believes that the interests of the public are expressed quite as accurately on the market and through the price lists as through the ballot box and the statute books. He even believes that poverty and most of the social ills can be eliminated under the system of voluntary agreement — freedom to accumulate, to own, and to operate private property — and without subjecting individuals to the necessity of becoming government employees.

Freedom versus compulsion. There are only two ways of getting men to do what is necessary for their own maintenance and that of the public; one is to induce them by the offer of a reward either of a material or of an immaterial kind; the other is to compel them by authority. For example, an army can be recruited and men led to fight for their country either by the volunteer system or by conscription. The one is the method of freedom; the other is compulsory so far as the individual is

concerned, whether the government be despotic or democratic. In the case of despotism a despot exercises compulsion over the individual; in the case of a democracy it is the mass which exercises the compulsion. On general grounds popular government is very much better than despotism; but so far as the conscripted individual is concerned, he has no more choice as to whether he will fight or not in one case than in the other.

Industries may likewise be recruited on the volunteer system or by conscription. Men may be induced to work on the farms and in the factories and mines by the offer of wages, profits, etc. or they may be directed by authority to do so.

If no one were allowed to accumulate capital or to own a farm, or a factory, or a mine, we should have much less freedom to choose our own occupations and to direct ourselves than we have under a system of free private enterprise and voluntary agreement. Even in an army the higher officers are not conscripted, though there is a story of a man who went into hiding until the government should begin to draft captains. Under a régime of complete government ownership and operation, men would have to be chosen by authority for the higher as well as for the lower positions in the industrial system.

Opposed to socialism. That there would be less freedom under universal government ownership than under private ownership will be clear to anyone who will stop dreaming long enough to think about it. No one could begin farming on his own initiative under that system, but would have to be placed in charge of a farm, or told to work under a boss, according as those in authority should decide. Under a liberalistic system anyone who can handle a farm successfully can become a farm manager and ultimately a farm owner, as thousands have already done. By serving an apprenticeship as a farm hand under a free contract with another free man, if the farm hand is a success he can always, after a few years of experience, become a share renter. Again, making a

contract with another free man, if he can make a success of this he can in a few more years become a cash renter. Again, if he is successful he can become a mortgaged owner, and finally a free owner.

Every stage of this advancement is conditioned upon his making a success of the next lower stage. If he can, it is, according to the philosophy of liberalism, economical of the human resources, as well as of the farms, that he should be advanced until he finds his level. If he cannot make a success in any one of these stages, it is a sign that he has reached or passed his level, that he has risen as far as, or farther than, it is economical that he should rise. It would be a waste of both human and material resources to advance him farther. If, for example, he can succeed as a farm manager, it would be wasting a good manager to leave him in the position of a farm hand. In the interests of the community he should advance. But if he would make a poor manager, it would be wasting other labor, as well as material equipment, to have them placed under his management. Under the system of free contract each man tends to find the place in the industrial system in which he can best fit. This is the method of trial and error. Each individual tries himself out and does not have to wait for the consent of someone else. Under the system of universal government operation the would-be farmer would have no better chance to test himself, or to advance on his own initiative, than he now has in the army or in the civil service.

The liberalist believes that, in general, the volunteer plan is better than the compulsory one. There are, of course, occasions when compulsion becomes necessary. These are usually occasions of acute and instant necessity, when there is not time for the market to adjust itself and to organize a volunteer system.

In time of war compulsion takes the place of freedom. Socialists are in the habit of saying that in time of war nations turn to socialism. It is true that in time of war compulsion

is generally, or at least to a considerable degree, substituted for freedom; but the whole business of war is compulsion. Our dealing with foreign enemies is necessarily on a compulsory rather than on a voluntary and contractual basis, and the whole organization of society may have to be changed from freedom to compulsion in order to carry on the compulsory business of war.

There are a multitude of minor forms of compulsion besides war itself. Taxation is a compulsory payment of money to the government. Conscription is compulsory military service. Forced loans are compulsory in a high degree. The censorship of the press is merely compulsory regulation of the business of selling talk for private profit. It may be necessary, in order to prosecute a war successfully, to resort to compulsion in recruiting munition factories and even farms. Rationing the population in time of food scarcity may be necessary.

In a régime of universal compulsion some must necessarily be treated better than others. Even though conscription be carried out without personal favor, the result works to the disadvantage of those drawn by conscription as compared with those not drawn. Those on whom the lot falls act as shock-absorbers for the rest of the community. There is nothing particularly democratic about this, though it may be the best possible way of meeting a national crisis. Under such conditions, when the life of a nation is at stake, it does not stop for the niceties of social justice. Necessity knows no law. It is probable, however, that as a result of several years of this compulsion there will be so much dissatisfaction and sense of unfairness as to provoke a strong reaction against compulsion and in favor of the volunteer system, not only in the work of fighting but in business and industrial pursuits as well. We may consider ourselves fortunate if this reaction does not carry us too far in the direction of license and impatience with all restraint.

Dangers of freedom. Freedom of trade — freedom to buy and sell, to offer and accept rewards — is a part of the program of

liberalism. There are, however, some very serious results which accompany freedom of bargaining. We saw in the last chapter that the advantage in bargaining is always on the side of those who are trying to sell something which is undersupplied or of those who are trying to buy something which is oversupplied. Conversely, the disadvantage is, of course, on the side of those trying to sell something which is oversupplied and of those trying to buy something which is undersupplied. When there is a long-continued oversupply of certain commodities or of certain kinds of labor, those who are under the disadvantage of trying to sell them feel, naturally enough, that the advantages of free contract are not so very great, since they are playing a losing game. They are frequently willing to take their chances under some form of compulsion, feeling that they could not be much worse off than they are under the system of free contract.

The situation of those trying to sell something that is oversupplied, especially if it happens to be labor, is summarized in the statement that "liberty is frequently the liberty to starve." It must be confessed that liberty is dangerous, even though it is very precious. Severe conditions are imposed on free men. Liberty to be on the street may mean liberty to get run over by an automobile. Liberty to go swimming may mean liberty to drown. Liberty to sail the seas may mean liberty to get shipwrecked. Children who are restrained in their liberty and are forbidden to be on the street are in less danger of being run over, and those who are prevented from going in swimming are in less danger of being drowned. Liberty is a terrible thing, but at the same time it is, for grown men, beyond price. Liberty to buy and sell may mean liberty to become bankrupt. The individual who has a guardian to forbid him to do any bargaining whatsoever may be saved from bankruptcy.

Advantages and disadvantages of freedom of contract. We saw in the last chapter that when farm products are oversupplied, as they were in the early nineties of the last century,

the farmer is at a disadvantage in bargaining. When he was compelled to take low prices for his products, in many cases he was impoverished. There are only two possible ways out of such a difficulty: the first way is to restore the equilibrium between the demand and supply, so that the prices of products shall rise to a remunerative level and the farmer be enabled to bargain advantageously; the second is for the government to exercise its power of compulsion in favor of the farmer and against those who have the advantage on the market. At other times, as during the great European War, the reverse of these conditions is found to exist. The consumer is the one who is at a disadvantage, since he is trying to buy undersupplied goods. Again, there are two ways out: first, to increase the products and restore the equilibrium between the demand and the supply; second, for the government to resort to some sort of compulsion in favor of the consumer and against the farmer or the dealer. The liberalist is one who prefers to restore the equilibrium and then allow the free bargaining process to go on.

In much the same way there has been what seems like a chronic oversupply of the lower grades of unskilled labor. This has made it difficult for the unskilled laborers to secure remunerative wages; that is, wages high enough to support their families in comfort. At the present time in the United States of America (1918) there appears to be a scarcity, or at least there is no longer such an oversupply, of labor as formerly existed. Immigration from Europe has almost ceased, owing to the European war, and at the same time the country is trying to expand various lines of production.

In ordinary times, however, for some hundreds of years back, the unskilled laborer has been at a disadvantage. A great many sympathetic people have assumed that there was something inherent in the nature of labor that put the laborer at a disadvantage, and something inherent in the nature of capital that put the capitalist at an advantage in the bargaining process. This is not true, although, as we have seen above,

conditions have generally been more favorable for the capitalist than for the unskilled laborer. But whenever and wherever unskilled labor has been hard to find, the advantage has been quite as much on the side of the unskilled laborer, and the disadvantage quite as much on the side of the employer. Whenever it has been possible for an employer to hang out his shingle saying "Men Wanted" and have ten men apply for each position, the conditions have been favorable for the employer and unfavorable for the laborer. The fact that there are more men applying for jobs than there are jobs to be had is a sure indication of an oversupply of labor. The case is parallel to that which would exist if a buyer of wheat could hang out a sign "Wheat Wanted" and have many times more wheat offered than he could buy. That would be a sure indication of the oversupply of wheat. On the other hand, if a farmer should put up a sign which read "Wheat for Sale" and find that many more buyers than he could supply were coming to purchase wheat, that fact would indicate an undersupply of wheat. Similarly, if a laborer, by putting out a sign "Job Wanted" should have several employers coming after him, this fact would indicate an undersupply of labor.

Making the advantages even on both sides. The policy of the constructive liberalist is indicated by these observations. It is his opinion that conditions can be created under which the average employer will find it as hard to get a man to work for him at liberal wages as the man will find it to get an employer to hire him at those wages. When that is accomplished, the advantages in bargaining will be about even. Labor would no longer be under a handicap in the bargaining process. Laborers will no longer feel the need of some compulsory restriction upon bargaining but will feel quite able to take care of themselves without help from the government or any other compulsory agency.

A program looking in this direction may take a little longer to work out, but from the point of view of the constructive

liberalist the results once achieved are vastly preferable to any achieved under a compulsory system. There is an old story about a wagoner, one of whose wagon wheels got into a deep rut. Instead of trying to extricate it he sat down by the side of the road and called upon Hercules to aid him. The story goes that Hercules replied that if the man would put his shoulder to the wheel, he could get out of the difficulty without calling on outside help. This, according to the liberalist, represents a general tendency in human nature. The government is our Hercules, and whenever we get into difficulties we are in the habit of sitting down and crying vociferously for the government to come and do something. Even though we have only the vaguest ideas as to what the government could do, we still insist that it do something or other. To be sure, there are some things which only the government can do. No other agency than the government can be intrusted with any kind of compulsion; and if compulsion is necessary, of course we must then call upon the government. To paraphrase an old remark, the individual's extremity is the government's opportunity.

"Doing something" for people. Beneficence is, of course, a characteristic of good government; but many of us, according to the liberalist, have never reached the point where we can understand that a "beneficent letting alone" is sometimes the most beneficent thing the government can give us. There are many people who feel that when they are ill the doctor must "do something." They do not realize that sometimes the most beneficent thing the doctor can do is to do nothing. A doctor whose desire is to please his patients may feel under some compulsion to do something for them, even if it is nothing more than to give them bread pills. From the standpoint of the liberalist much of our so-called social legislation consists of bread pills.

Sometimes, however, it is really necessary that the doctor should do something. The doctor whose skill consists in his

ability to cure sickness rather than to please patients will have enough to do, provided the people know enough to appreciate him. The same may be said of a government. There are a few really vital things that a government may do. If it succeeds in doing these few things well, it will then be unnecessary to do the thousand and one trivial things that it is asked to do.

So far as this country is concerned, probably the most far-reaching and constructive piece of legislation in the last generation has been the restriction of immigration. This is one of the few acts of the government which go directly to the root of the difficulty of low wages and poverty. It is an act which definitely aims at reducing the oversupply of unskilled labor. It is true that it does not go far in this direction, but at least it indicates to the public that the government has recognized the source of the difficulty and is no longer proceeding on general guesswork in an attempt to overcome it. If it will go a little farther in the same direction, it will make unskilled labor so scarce and hard to find that the unskilled laborer will no longer be at a disadvantage, but can bargain on even terms with employers and secure living wages for himself without help from anybody.

A low standard of living and a high birth rate. But immigration from Europe and Asia is not the only source of oversupply of unskilled labor. The inordinately high birth rate among the ignorant and unskilled is another large source of cheap labor. Nothing, apparently, but a rise in the standard of living will reduce the volume of this stream. A rise in the standard of living means an increase in the number of things which the average man or woman thinks necessary to the support of the family. The more things they feel they must have before they can marry and support a family, the longer they will postpone marriage. The longer they put off marrying, the smaller number of children there will be in the family, partly, at least, because the child-bearing period of the wife is reduced. If the age of marriage is raised on the average from

eighteen to twenty-three, there are five less years during which the wife may bear children.

Families too small among the educated classes. The restriction of immigration among the ignorant and unskilled, of course, has nothing to do with the restriction of immigration among the educated and skilled. The latter are as free to come as when immigration was unrestricted. Similarly, a rise in the standard of living among the ignorant and unskilled has nothing to do with the marriage and the birth rate among the educated and skilled. Among the latter classes the reform ought to proceed in quite the opposite direction. There is no doubt that among these people marriages are postponed too long, and the average families are too small.

Increasing the supply of employers. The decrease in the number of people born with the heredity and prospective training which fit them for skilled positions, and for positions in the ranks of the employing class, tends to reduce the demand for unskilled labor. Hitherto, unskilled laborers have suffered from two causes: the fact that there have been too many unskilled laborers, and the fact that there have been too few employers. It is as though, in the badly balanced ration of an individual or an animal, the too abundant ingredient, say starch, were to be increased more and more, and the too scarce ingredient, say protein, were to be decreased more and more. The combined result of increasing the one and decreasing the other would produce a more and more unbalanced ration, to the detriment of the man or the animal. The continuous increases in the ranks of the unskilled laborer through immigration and the high birth rate, and the decrease in the highly skilled and managerial labor through the postponement of marriage, and various other causes, has produced a progressively unbalanced population, tending to make unskilled labor very cheap and highly skilled and managerial talent very dear.

Fortunately the effect of this combination of processes has been offset, at least partially, by our system of popular education.

Such a system of universal and popular education has the effect of redistributing talent, of taking young people who would otherwise have remained in the ranks of the unskilled and training them for the ranks of the skilled, the managerial, and the entrepreneur class. This tends to reduce the supply of ignorant laborers and increase the supply of educated workers. If the system of popular education continues to improve, and greater and greater restrictions are placed upon the importation of unskilled labor, and a higher standard of living is acquired by our own unskilled laborers, the combined results of these three changes will tend to make unskilled labor scarce and hard to find, and to make jobs abundant and easy to find, and give the unskilled laborer the advantage not only of retaining his liberty of contract but of prospering under it. If we carry out our educational policy to its logical limit, and train not only skilled laborers but also managers and employers, and at the same time create a more rational standard of living and better moral conditions among these classes, the combined results of these two policies, that is, training men for the high positions and encouraging larger families among them, will so increase the numbers of the managerial class as to take away their present advantage in the bargaining process. By following this general process throughout all ranks of society we may expect in a short time so to even up the advantages of bargaining as to give us something approximating equality without substituting compulsion for freedom.

Thrift and the laborer. The encouragement of thrift will tend in the same direction and will accelerate the process of putting unskilled labor in a position to prosper under freedom. It is through thrift that capital accumulates. When capital becomes so abundant that the average owner of capital has great difficulty in finding an opportunity to use it, he will have to be content with a smaller share in the products of industry.

The encouragement of productive enterprise, the frank acknowledgment of our obligation to the man who shows the

ability to plan a new enterprise and, what is vastly more important, to make it actually succeed, will do a great deal to expand the opportunities for those of us who do not possess that kind of ability. The more such men we can develop in our midst, the more our industries will expand and the more opportunities for remunerative employment there will be for the rest of us.

Poverty easily curable under freedom. We need not have poverty in our midst a generation longer than we want it. By setting to work deliberately to balance up our population, making ignorance and lack of skill to disappear, and making technical training and constructive talent to increase, we can, in a short space of time, make low wages and poverty a thing of the past. What is even better, we can do this and still leave everyone a free man. This is the gospel of the new, or constructive, liberalism which is destined to bring relief, if not to this nation, at least to some nation which has the wisdom to adopt it, and which, when adopted, will keep that nation in the position of leadership among all the nations of the earth.

A LIBERALIST'S PROGRAM FOR THE COMPLETE ABOLITION OF POVERTY[1]

I. Legislative Program

A. For the redistribution of unearned wealth.
   1. By increased taxation of land values.
   2. By a graduated inheritance tax.
   3. By control of monopoly prices.

B. For the redistribution of human talent.
   1. By increasing the supply of the higher, or scarcer, forms of talent.
      (*a*) By vocational education, especially for the training of business men.
      (*b*) By cutting off incomes which support capable men in idleness.

[1] Compare the author's work entitled "Essays in Social Justice," Chapter XIV. Harvard University Press, 1915.

2. By decreasing the supply of the lower, or more abundant, forms of labor power.
   (*a*) By the restriction of immigration.
   (*b*) By the restriction of marriage.
      (1) By the elimination of defectives.
      (2) By the requirement of a minimum standard income.
   (*c*) By a minimum-wage law.
   (*d*) By fixing building standards for dwellings.

C. For the increase of material equipment.
   1. By increasing the available supply of land.
   2. By increasing the supply of capital.
      (*a*) By encouraging thrift versus luxury.
      (*b*) By building up savings institutions.
      (*c*) By making investments safe.

II. Nonlegislative Program

A. For raising the standard of living among the laboring classes.
   1. The educator as the rationalizer of standards.
   2. Thrift and the standard of living.
   3. Industrial coöperation as a means of business and social education.

B. For creating sound public opinion and moral standards among the capable; for example,
   1. The ambition of the family-builder.
   2. The idea that leisure is disgraceful.
   3. The idea that the productive life is the religious and moral life.
   4. The idea that wealth is tools rather than a means of gratification.
   5. The idea that the possession of wealth confers no license for luxury or leisure.
   6. The idea that government is a means, not an end.
   7. Professional standards among business men.

C. For discouraging vicious and demoralizing developments of public opinion; for example,
   1. The cult of incompetence and self-pity.
   2. The gospel of covetousness or the jealousy of success.
   3. The idea that the capitalization of verbosity is constructive business.

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